

**O Estatuto das Pseudo Relativas
em Português Europeu**

Bruno Emanuel Pinto Ramos Fernandes

**Dissertação de Mestrado
em Ciências da Linguagem – Psicolinguística**

Março 2012

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Dissertação apresentada para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Ciências da Linguagem, realizada sob a orientação científica de Professor Doutor João Costa e Doutor Antonino Grillo.

"Es ist bekannt, daß die Sprache ein Spiegel des Verstandes ist (...)".

Gottfried Wilhelm Leibniz

Para a minha Avó

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O ESTATUTO DAS PSEUDO RELATIVAS EM PORTUGUÊS EUROPEU

BRUNO EMANUEL PINTO RAMOS FERNANDES

RESUMO

Quando Cueto e Mitchell (1988) publicaram os resultados do seu estudo sobre aposição de relativas, colocaram em causa a universalidade dos princípios de parsing, em especial o de Aposição mais baixa, já que falantes de Espanhol preferiam uma aposição alta de relativas quando perante duas opções de aposição e falantes de Inglês preferiam aposição baixa. Desde então muitas explicações têm sido avançadas e, ainda que existam estudos que comprovem a preferência universal por aposição baixa em tarefas online, a distinção encontrada em tarefas offline continua por explicar. Grillo e Costa (2011) defendem que, ao contrário do assumido, os pronomes relativos *that* e *que* não são iguais porque o pronome relativo do Espanhol pode, ao contrário do pronome relativo do Inglês, introduzir Pseudo Relativas, e, nos contextos em que essa estrutura pode ser projectada, ela força uma aparente aposição alta, e é devido a esta distinção entre pronomes relativos que se obtém a diferença obtida entre línguas em tarefas de questionário. Estes autores predizem que qualquer estrutura semelhante à Pseudo Relativa deverá influenciar aposição alta em contextos de Pseudo Relativa e aposição baixa em contextos de oração relativa. Nesta tese testamos esta predição para a Construção Infinitiva Preposicionada numa tarefa de questionário cruzando disponibilidade de estrutura Pseudo Relativa e posição. A segunda experiência é uma repetição da primeira mas com Pseudo Relativas em Português Europeu, uma estrutura disponível na língua, mas cuja disponibilidade sofre grande variação. Devido a esta variação realizámos um terceiro teste que nos permitisse entender que interpretação os falantes obtêm desta estrutura e observar que características gramaticais podem influenciar essa interpretação. Os resultados dos primeiros dois testes mostram uma clara influência da disponibilidade da estrutura PR na determinação da aposição.

Palavras-chave: CIP, Pseudo Relativas, Aposição

THE STATUS OF PSEUDO RELATIVES IN EUROPEAN PORTUGUESE

BRUNO EMANUEL PINTO RAMOS FERNANDES

ABSTRACT

When Cuetos and Mitchell (1988) reported their findings on attachment preferences, they put in question the universality of parsing principles, especially *Late Closure*, since Spanish speakers showed a preference for attaching RCs high when faced with two possible sites, whereas English speakers would rather attach low. Many explanations have been offered, and while evidence for universal online parsing principles exists, the offline distinction still remained to be fully explained. Grillo and Costa (2011) argue that the complementizer *que* and *that* are not the same, as the Spanish complementizer, unlike the English one, introduces Pseudo Relatives and, as such, whenever the context is one of Pseudo Relatives it leads to high attachment and this is what leads to such crosslinguistic different results in the studies. These authors predict that Pseudo Relative correlates will consistently get high attachment when in Pseudo Relative contexts and low attachment in Relative Clause contexts. In this thesis we test this prediction with Prepositional Infinitive Construction in European Portuguese in a questionnaire task crossing Pseudo Relative contexts and position. The second experiment is a replication of the first one using European Portuguese Pseudo Relative, a structure whose availability is limited in this language. Given this limitation we also ran a third experiment to allow us to understand what kind of interpretation subjects have when faced with such structure and which grammatical features could influence that interpretation. The results from the first and second experiment clearly indicate a very strong effect of the availability of PR structure in attachment.

Key words: PIC, Pseudo Relative, Attachment

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ABBREVIATIONS

PIC – Prepositional Infinitive Complement

RT – Reaction Time

PR – Pseudo Relative

EP – European Portuguese

RC – Relative Clause

SCI – Small Clause

I. INTRODUCTION

In this first chapter, we will present the current work, its structure and its goals.

Since Cuetos and Mitchell (1988) reported their findings from a questionnaire study of how, when faced with sentences like the ones above, the preference of attachment varies across languages that the universality of parsing principles was questioned. From then on many explanations and interpretations have been proposed to why subjects from different languages would display such a different behavior when faced with two possible attachment sites for the same structure: relative clauses. Many studies have showed that in online studies parsing principles seem to apply across languages, but the offline distinction still remained to be fully explained.

In this thesis we will test attachment preferences in a questionnaire study crossing the aforementioned ambiguity in relation to the availability of an extra syntactic structure – *Pseudo Relatives* (PR). The first experiment will address a PR correlate in European Portuguese (EP) – *Prepositional Infinitival Construction* (PIC) and the second European Portuguese PRs. Given that PRs are under variation in this language a third experiment was conducted with the goal of understanding what is the interpretation that subjects do when faced with PRs in EP.

In the second chapter, we will start by reviewing the parsing principles and how several authors dealt with the asymmetry in RC attachment across languages. The chapter will end with an overview of a recent proposal by Grillo and Costa (2011), which serves as basis to this dissertation. The third chapter will discuss a central structure in that proposal, *Pseudo Relatives*. The fourth chapter will focus on the *Prepositional Infinitive Construction* found in European Portuguese, a structure correlate of PRs. In the fifth chapter, the hypothesis on which the experimental procedure was based will be presented. The sixth, seventh and eighth chapters are a description of the experiments, methodology and the results for the first, second and third experiments, respectively. The ninth chapter consists of a discussion of the data and the conclusion.

II. ATTACHMENT PREFERENCES

2. 1. Introduction

Attachment preferences are a recurrent issue on the subject of language processing. Ever since Cuetos and Mitchell (1988), who reported different crosslinguistically preferences for relative clause attachment, every model of language processing has to deal with these data and many possible explanations have been offered. In this chapter, a quick overview of most of the explanations that have been put forward will be offered, as well as a recent proposal, which serves as basis for the current work.

2. 2. Garden Path

The whole model is based on the general idea of economy of memory and complexity. Keeping this in mind, it is possible to give a quick outline of the two stages of the model presented in Frazier and Fodor (1978).

The first, the *Preliminary Phrase Packager* (PPP), is responsible for creating phrases; Blumenthal (1966) reports that people tend to misanalyse sequences like “the woman the man the girl loved met died” as asyndetic listed DPs, even though a grammatical interpretation exists in the form of a relative clause (The woman that the man which the girl loved met died). Frazier and Fodor interpret this misanalysis in the following way: first, it shows that the parser operates on two stages, or there would be no reason for the misanalysis to take place; second, the fact that this is a local misanalysis gives us the moving window of analysis on which this first stage operates; third, when looking at the misanalysis, it consisted of giving those DPs a flat structure of coordination, which means that, when possible, every item is included within a single phrase. The PPP groups strings of words while trying to assign a comprehensive phrasal classification to them all. This means that, in this phase, the parser tries to keep a group of words together in a single constituent; this procedure is limited within a moving window of around half a dozen words, and works by focusing on one word, roughly in the middle, and trying to keep the most words in the same phrasal unit of that middle word. The reason why the PPP cannot do the relative clause reading is because it is out of its reach and can only be

performed on the second stage, by the *Sentence Structure Supervisor* (SSS). The SSS is responsible for creating dependencies between what the PPP identifies, it does not exhibit memory limitations and displays remarkable syntactic knowledge; sentences like the following are evidence in favor of the existence of the SSS and its syntactic knowledge:

- 1) a. *Which student did John take the new instructor to meet the dean?
 b. * John took the new instructor to meet

If all the language processing device did was to group words together, the ungrammaticality of (1 a.) and (1 b.) would not be readily detected. The readiness of how people are able to detect them shows the predictive nature of the parser; it is capable of identifying moved, missing or ungrammatical constituents even in long distance conditions.

Besides identifying these two stages, the existence of several principles operating in both stages like *Late Closure*, *Right Association* and *Minimal attachment* has been postulated.

2.2.1. Late closure

This principle was postulated by Frazier (1979) as “when possible, attach incoming material into the clause or phrase currently being parsed”. This principle can be attested in the following example:

- 2) Joe called the friend who had smashed his new car up

The particle *up* is preferably associated with the verb *smash* than with *call* even though both options are equally possible; this is a case of the principle *Late Closure* operating: when faced with two options, the most local option is preferred.

2.2.2. Right Association

The *Right Association* principle (Kimball 1973) states that “terminal symbols optimally associate to the lowest non-terminal node”, i.e., when faced with new lexical elements that can be attached to a higher or lower node, the parser will preferably attach it low as a sister node.

This principle is seen in action for adverbs like *yesterday*, which can be attached to either the matrix verb or to the embedded verb in a completive sentence. In a sentence like (3):

- 3) John said that Bill had taken the cleaning out yesterday

The preference for attaching the adverb to the embedded verb is so strong that even when that option is ruled out via the manipulation of tense, having the future, to create a mismatch to the adverb, there is a strong tendency to attach low making the correct interpretation of the sentence harder to obtain:

- 4) John said that Bill will take the cleaning out yesterday

2.2.3 Minimal Attachment

The principle of *Minimal Attachment* states that any item should be “attached into the phrase marker with the fewest possible number of non-terminal nodes”. This principle was postulated given sentences like:

- 5) While Mary was mending the sock fell off

When parsing a sentence like the one above, a misanalysis very often occurs, consisting of the momentary interpretation of *the sock* as being the direct object of *mending*. The sentence is introduced by the complementizer *while*, which introduces adverbial sentences, so the parser does have the knowledge that, at some point, the subject of the main clause will have to come up, but, when initially parsing *the sock*, it is done not as the subject of the main clause, even though it is actually the right option, because, at that point, parsing the constituent as an argument of the verb is still the most economical and simple way in light of *Minimal attachment*. This is so because parsing *the sock* as being the complement of the verb requires fewer nodes than parsing it as the subject of the main clause.

2.2.4. Relative clauses

Cuetos and Mitchell (1988) reported the results of a questionnaire study that meant to see how subjects from different languages resolved an ambiguity in RC attachment. They presented stimuli to the subjects with two DPs followed by a RC and the ambiguity resided in the fact that it is completely grammatical to attach the RC to either one of the DPs. (cf. 6)

6) a. Someone shot the maid₁ of the actress₂ that was standing on the balcony

b. Alguién disparó a la criada₁ de la actriz₂ que estaba en el balcón

If the parsing principles were uniform between languages, speakers of different languages should display the same preference in attachment. But, when their results showed that Spanish speakers would rather attach the relative clause high -DP1- and English speakers preferred attachment to DP2, the authors questioned the universality of parsing principles. This evidence puts in question the universality of the parsing principles, because, in light of *Late Closure* and *Right Association*, a RC should be attached within the constituent that is being parsed at the moment and as a sister node at the lowest possible attachment site, favoring, in sum, the most local possibility when faced with two options, which faced with an ambiguity like the one in this study is DP2.

2.3. Dealing with the crosslinguistic differences

The crosslinguistic findings have led to the distinction between high and low attachment languages and, since then, several explanations have been offered to account for this asymmetry in language processing.

2.4. The Tuning Hypothesis

Proposed by Mitchell and Cuetos (1991), *The Tuning Hypothesis* argues in favour of language specific parsing preferences based on a statistical analysis of the input. The parser is innate, but it tunes itself in accordance to the amount of high or low attachment stimuli to which the speaker is exposed.

2.5. The Construal Hypothesis

The Construal Hypothesis (Clifton and Frazier 1996) takes the task of attaching RCs away from the parser, arguing that RCs are attached due to pragmatic factors. The RC is not attached by the syntactic parser, but at a later stage to the most relevant pragmatic position, which would be DP1 in languages such as Spanish and DP2 in languages such as English. In this hypothesis, the parser would be similar and whatever distinction should be attributed to the discourse relevance of the DP and that same relevance is what attracts to itself the attachment of the RC. English would then display low attachment because of the elsewhere principle, i.e. English has a way of managing discourse prominence with the possibility of alternating between having two DPs and the possessive construction *DP's DP*. An empirical issue for this view is found in Dutch, which has been classified as a high attachment language when faced with sequential DPs and also has an alternative structure similar to English *DP's DP*:

- 7) a. Dat is Jans auto
- b. Dat is de auto van Jan

2.6. Implicit Prosody

The Implicit Prosody Hypothesis (Fodor 1998a) attributes the asymmetry in RC attachment to each language's prosody. When reading, people project a prosodic structure and attachment is established in accordance to that prosody. In speech, the attachment is established from prosodic cues provided by the speaker to the listener. This view keeps the uniformity of the parser across languages, but since languages have distinct phonology and prosody different attachment preferences emerge. Many studies have been done within this hypothesis; we would like to refer one done for EP.

2.6.1 Early and late preferences in relative clause attachment in Portuguese

Maia, Costa, Fernández and Lourenço-Gomes (2007) ran an online study, a self-paced reading task, with 40 Brazilian Portuguese and 40 EP native speakers in which test items could only attach to one of two adjacent DPs via the manipulation of agreement features on the DP and on the embedded verbs, i.e. verbs were in the plural, and only one of the DPs would be in the plural. These authors also manipulated RC length to see if constituent weight would play a part in disambiguating attachment possibilities. Their conclusion was that since both groups of subjects displayed shorter RTs for low attachment items and found no significant difference between the long and short RCs items, the initial parsing preference for these two varieties of Portuguese, a high attachment language, is low attachment; in accordance to uniform crosslinguistically parsing principles. In another task, this time an offline questionnaire task, these authors report a significant effect in RC length to conditions attachment preference, their interpretation is in accordance with Implicit Prosody, since, the longer the constituent is, higher are the chances of it being a noun modifier and as such preferably parsed low.

2.7. Recency Preference

Gibson et al. (1996) propose a multifactorial explanation, an interaction of factors with *recency preference*:

Recency Preference: preferentially attach structures for incoming lexical items to structures built more recently.

This is a principle in the likes of late closure or right association, i.e. a principle of local preference, which, according to these authors, interacts with other principles and what would not be uniform across languages, would be the principles' hierarchy, probably something like Frazier's *Relativized Relevance* (1990) or *Predicate Proximity*:

Relativized Relevance: Other things being equal (e.g., all interpretations are grammatical, informative, and appropriate to discourse), preferentially construe a phrase as being relevant to the main assertion of the current sentence

Predicate Proximity: Attach as close as possible to the head of a predicate phrase

These authors ran two experiments in which subjects' RTs in a self-paced reading task would be interpreted in the following way: the lower the time is, the easier it would be considered that the attachment was. The attachment was forced resorting to agreement features on the embedded verbs, matching just one of the DPs. What the authors concluded was that English and Spanish speakers would rather attach to extremities than to the middle possibility, preferring $DP3 > DP1 > DP2$. This lack of monotonicity means that a single factor cannot predict this behaviour, since what would be expected from a high attachment language would be $DP1 > DP2 > DP3$ and from low attachment languages $DP3 > DP2 > DP1$. These would allow for the parsing preference to be kept uniform between those languages aside from the role played by this second factor, meaning that while principles are universal, their hierarchy is not.

2.8. Variable Syntax, Uniform Parsing

Grillo and Costa (2011) offered a new take that allows keeping a uniformity of parsing preferences crosslinguistically. These authors claim that *that* and *que* are not really the same, since *que* in Spanish is a complementizer able to introduce a structure called Pseudo Relative as well as regular relative clauses, while *that* can only introduce relative clauses. The authors argue that the availability of a Pseudo Relative structure - PRs are an instance of SCIs having a tensed CP as its predicate and under several aspectual restrictions - leads to a preference of an apparent high attachment, what really happens though is in accordance with the parsing principles previously discussed, since Pseudo Relatives would attach to the currently parsed constituent and as a sister node in the lowest available location – the matrix VP – and such parsing is preferred under *minimal attachment*. When in a context in which a Pseudo Relative is not available, a preference of low attachment for RCs should be observed for all languages, once again in favor of a uniformity of parsing principles both online and offline.

2.9. Conclusion

The garden path theory predicts a highly economical behavior from the syntactic parser on both stages. The first stage identifies constituents, and the second creates dependencies between them. Both stages operate under principles like late closure, minimal attachment and right association which can all be summed up, as attaching new structure in the most local

possibility with the least number of syntactic nodes. Ever since Cuetos and Mitchell (1988), the universality of the parsing preferences was questioned, in managing these data, people have shown evidence of uniform online parsing preferences, and have attributed the offline results to either prosody or pragmatics. Costa and Grillo make predictions of attachment based on the availability of syntactic structures, which means that offline studies results should be similar to the ones obtained on online tasks.

III. PSEUDO RELATIVES

3. 1. Introduction

In Romance languages, such as French, Italian or Spanish, perceptive verbs take a complement resembling a relative clause that displays a few distinguishing and unique properties. Due to this apparent similarity, it has been called *Pseudo Relative*. In (8), we list a few examples of Pseudo Relatives in these languages: (Examples a. and b. from Cinque 1992).

- 8) a. Ho visto Mario che correva a tutta velocità. (Italian)
 b. J'ai vu Mario qui courait à toute vitesse. (French)
 c. Ho visto Mario que corría a toda velocidad. (Spanish)

The sentences above are inherently ambiguous, they can be one of three things: a restrictive relative, an appositive relative and, the one we're interested in, a Pseudo Relative. The restrictive reading assumes the existence of several Marios and the one seen was the one that was running, the appositive reading can be paraphrased as "Mario was seen and he was running at that time", the PR expresses an event reading; its emphasis is not on the individual but on something that happened and in which that individual was involved, so, it was not just Mario that was seen, but the action that Mario was performing, in this case running.

3. 2. Overview

Pseudo Relatives got their name from their similarities with regular relative clauses, but, as Guasti (1988) and Cinque (1992) have shown, they do not behave in the same way. Unlike regular relative clauses, which allow for any argument of the embedded verb to be its head, whether it is the subject or an accusative or dative object, in Pseudo Relatives the "relativized" DP can only be the subject of the embedded clause (9 a., b.). Other behavior distinguishing relatives and Pseudo Relatives is the type of available complementizer, the overt complementizer in PRs cannot be freely replaced by a relative pronoun (10 a., b.) and the head of a PR, from now on addressed as its subject, and not of a regular relative, can be a trace (11 a., b.):

- 9) a. Je l'ai vu qui sortait du cinéma
b. *Je l'ai vu que Marie embrassait
- 10) a. Je l'ai vu qui sortait du cinéma
b. *Je l'ai vu laquelle sortait du cinéma
- 11) a. Quello che vedi *t* che sta partendo è Gianni
b. *Quello che conosci *t* che sta partendo è Gianni

Sentences (9 a.) and (9 b.) are taken as the first evidence pointing towards the possibility that PRs are lexically selected. Further ahead it will be shown to what extent.

The Pseudo Relative has been the object of several syntactic analyses, but, as Cinque (1992) has shown, any analysis has to be able to capture all the particular characteristics that Pseudo Relatives display.

First, consider its constituent status. Some analyses treat PRs as two constituents, the DP, which would be the direct object of the matrix verb, and the CP as another complement to the matrix verb, similarly to what happens for verbs such as *convincere* (to convince) (12 a.), but, when selected by a perceptive verb (12 b.), the DP CP sequence shows different behavior in relation to the possibility of being fronted (12 c., d.)

- 12) a. Ho convinto Gianni che doveva andarsene
b. Ho visto Gianni che correva a tutta velocità
c. *Gianni che doveva andarsene, ho convinto!
d. Gianni che correva a tutta velocità, ho visto!

What (12 c.) and (12 d.) show is that, depending on the verbs that select it, the sequence DP CP can form a constituent and, as such, the PR should be considered a single constituent. Kayne (1981) and Burzio (1981, 1986) have offered an analysis similar to a relative clause but in which no Wh- movement is involved, the CP is a modifier of DP and the complementizer, *qui/che*, is in Spec of CP controlling a PRO. Even though it explains the single constituent status, the subject/object asymmetry and the impossibility of occurrence of other relative pronouns, Cinque argues that it does not offer explanation to (12 c.) and (12 d.) and neither does it capture the origin of the propositional reading associated to an event, which is

independent from the DP referring to a person or not, when compared to the reading of an individual displaying a certain characteristic associated to a RC. This propositional nature has been shown by Radford (1977), as the PR can only be resumed by a pronoun such as *ciò* (what) or a word referring an inanimate object like *fatto* (thing). This is observed in the opposition between (13 a. and b). and (13 c. and d.):

- 13) a. Ciò che ho visto è Mario che scriveva nel sonno
 b. *Ciò che ho invitato è Mario che scriveva nel sonno
 c. Ho visto un fatto molto curioso: Mario che scriveva nel sonno
 d. *Ho visto un tipo molto curioso: Mario che scriveva nel sonno

Guasti (1988, 1990) proposed treating the Pseudo Relative as a CP with the initial DP in Spec CP, this analysis does not encounter the previous problems but it still does not offer a comprehensive analysis covering all types of Pseudo (when following verbs like *incontrare* (meet), *cogliere/sorprendere* (catch), etc.)

- 14) a. Se incontri Mario che scappa, non meravigliarti
 b. Hanno colto Mario che rubava negli spogliatoi

Verbs of this class allow for a Pseudo Relative, since the constituent has a propositional reading, but it does not stand as a single constituent (12). This divergence between selecting verbs provides an argument in favor of categorical selection, since verbs in whose presence the Pseudo Relative is a constituent may also select a CP (16):

- 15) a. *Quello che vorrei incontrare è Mario che corre
 b. *Mario che fuma, vorrei cogliere!
- 16) a. Ho visto che Gianni suonava
 b. *Ho incontrato/sorpreso che Gianni suonava

Addressing the issue of the categorical nature of the Pseudo Relative, Cinque argues that it should be considered a SCl, to sustain this claim he offers proof in the form of its

distribution, constituent status and coordination. Looking at its distribution, we see how Pseudo Relatives occur in the same contexts in which SCIs are legitimate.

17) a. Complement SC

1. Non sopporto [SCI Gianni e Mario [vestiti da boy scout]]
2. Non sopporto [SCI Gianni e Mario [che fumano in casa mia]]

b. Adjunct SC predicated of an object

1. Mangiò la pizza [SCI PRO [calda]]
2. Mangiò la pizza [SCI PRO [che stave ancora fumando]]

c. Adjunct SC predicated of a subject

1. Gianni lasciò la stanza [SCI PRO [ubriaco]]
2. Gianni lasciò la stanza [SCI PRO [che era ancora sotto gli effetti dell'alcohol]]

d. Small clauses in the “absolute” with construction

1. Con [SCI Gianni [malato]], non possiamo partire
2. Con [SCI Gianni [che continua a lamentarsi]], no possiamo partire

e. Small clauses in locative contexts

1. Maria è là [SCI PRO [arrabbiata più di prima]]
2. Maria è là [SCI PRO [che piange più di prima]]

f. Small clauses in existential contexts

1. C'è qualcuno [SCI PRO [disposto ad aiutarci]]

2. C'è qualcuno [SCl PRO [che sta salendo le scale]]

g. “Root” SC in incredulity contexts

1. [SCl Mario [ubriaco]]? È impossibile!

2. [SCl Carlo [che si offerto si è offerto di aiutarci]]? Non mi sembra vero

h. Small clauses subject of copulative verbs

1. [SCl Gli studenti [così, alla mercé dei minatori]] è uno spettacolo che mi auguro di non rivedere più

2. [SCl I minatori [che picchiano degli studenti inermi]] è uno spettacolo che fa star male

The second argument is how the constituent status of the SCl changes depending on which verb selects it (18), this can be attested as Wh-extraction is possible only from complements and not from adjuncts (19):

18) a. Ciò che vedrai è Gianni arrabbiato/ in difficoltà

b. *Ciò che incontrerai è Gianni arrabbiato/ in difficoltà

19) a. Quanto stanco lo avete visto, Gianni?

b. *Quanto ubriaco lo avete sorpreso, Gianni?

The third and last argument is coordination. It is generally accepted that only items of the same category can be coordinated, and Pseudo Relatives can be coordinated with other types of SCls (20) but not with full CPs (21):

20) a. Ho visto [Gianni depresso] e [Piero che cercava di risollervarlo]

b. Ho visto [Gianni in bicicletta] e [Piero che gli corevva dietro]

- 21) a. *? Ho visto [Piero che coreva] e [che Mario cercava di raggiungerlo]
 b. *? Ho visto [Gianni depresso] e [che Piero cercava di risollevarlo]

Accepting Pseudo Relatives are SCIs, leads us to observe how SCIs behave. As established earlier, verbs like *incontrare* can take SCIs that do not form a constituent (18 b.) and verbs like *vedere* (see) take SCI as a single constituent (18 a.), this is interpreted to be so because they can be an argument of the verb or enter an adjunct construction to the verb; SCIs can also enter a third possible configuration; a DP internal adverbial position with the semantic value of “while”, as in “Carlo e Paolo vestiti da boy scout sono un vero spettacolo, meaning “in that time frame in which they are dressed as boy scouts they are quite a sight”; As expected, Pseudo Relatives can also enter this configuration maintaining the “while” meaning of the internal SCI, this also offers further distinction from a relative clause, which has a meaning of a modifier of the DP. The fact that the subject DP agrees with the verb (22) and can be resumed with a [+ animate] pronoun (20) motivates the treatment of Pseudo Relatives like these as being internal to the DP:

- 22) Carlo e Paolo vestiti da boy scout **sono** un vero spettacolo
 23) Carlo e Paolo vestiti da boy scout, non **li** sopporto

Right now, it has been established that Pseudo Relatives come in three varieties: complement or adjunct position to the matrix VP and DP-internal. With this in mind, it is now possible to establish which verbs take which kind of Pseudo Relative. Verbs of the *incontrare* class take PRs in its adjunct status but not complement. This is supported by how, when in a topicalization construction, Pseudo Relatives are not a single constituent (24). This is the behavior displayed also in the context of verbs like *cogliere* (catch) or *sorprendere* (surprise).

- 24) a. * Carlo che esce, spesso lo incontro
 b. *Carlo che rubava negli spogliatoi, non l’hanno colto

c. *Carlo che beve, lo sorprendono sempre

Other class of verbs is the one including verbs like *sopportare*, which allow for DP internal and complement Pseudo Relatives. (25 a.) illustrates the single constituency status, and (25 b.) the “while” reading and how the DP can be resumed by a [+ human] pronoun, the two characteristics of this configuration.

- 25) a. C'è una cosa che non sopporto: Gianni che mi fumano in faccia
 b. Gianni e Paolo che mi fumano in faccia, proprio non li sopporto

Perceptive verbs seem to allow for every kind of Pseudo Relative. They can select for complement, attaching to the matrix VP as an argument, and DP internal Pseudo Relatives. Enough evidence for the complement status has been presented. In (26), evidence is offered in favor of perceptive verbs selecting for the DP internal kind.

- 26) a. Gianni e Paolo vestiti da boy scout, non li ho mai visti

The possibility of acceptance of adjunct Pseudo Relatives by perceptive verbs is still open; to answer this question Cinque reviews the possibility of operations that each structure offers. The *incontrare* type class (27), unlike the *sopportare* class, allows for clitic (28 a.) and DP movement (28 b.) in the form of Passivization.

- 27) a. Lo_i hanno colto t_i che rubava negli spogliatoi
 b. Carlo_i è stato colto t_i che rubava negli spogliatoi

- 28) a. *Non lo_i sopporto t_i che mi fuma in faccia
 b. *Lui_i non è sopportato t_i (da nessuno) che fuma in quel modo

Cinque takes this data as meaning that these operations can only happen when the Pseudo Relative is in its adjunct format to the matrix VP, and, since perceptive verbs such as *vedere* (see) do allow for them to take place (29), it must mean that perceptive verbs also take adjunct Pseudo Relatives, making them the only class of verbs that license every type of occurrence from Pseudo Relatives.

- 29) a. L'ho visto che correva a tutta velocità
 b. Gianni è stato visto che correva a tutta velocità

Notwithstanding the validity of Cinque's claim, it has been reported that Pseudo Relatives suffer intervention effects with movement operations. These effects have been reported in Koopman and Sportiche (2008), who argued that French does not allow for long subject extraction, but allows instead for such extraction to be performed when the moved element is the subject of a Pseudo Relative, since, as reported by Cinque, Pseudo Relatives permit movement operations on its subject (25 and 29). The authors also report that these operations can exhibit intervention effects from the presence of quantifiers, negative quantifiers and sentential negation, as can be seen in (30), (31) and (32). These effects disappear when the extracted element is a complement of the embedded verb (c. sentences)

- 30) Intervention by quantifiers.
- ↓ a. Qui tous les (/plusieurs/ deux ou trois) témoins croient qui est en train de l'appeler
- ↓ b. Qui tous les (/plusieurs/ deux ou trois) témoins ont vu qui était en train de l'appeler
- c. Qui tous les (/plusieurs/ deux ou trois) témoins croient qu'il est en train d'appeler

- 31) Intervention by negative quantifiers
- ↓ a. Qui personne/ aucun témoin ne croit qui est en train de l'appeler

- ↓ b. Qui personne/ aucun témoin n'a vu qui était en train de l'appeler
- c. Qui personne/ aucun témoin ne croit qu'il est en train d'appeler

32) Intervention by sentential negation

- ↓ a. Qui tu ne crois pas qui est en train d'appeler Pierre
- ↓ b. Qui tu n'as pas vu qui était en train d'appeler Pierre
- c. Qui tu ne crois pas que Jean est en train d'appeler

The authors claim these effects do not happen with overt Pseudo Relatives. But sentential negation clearly is one factor that intervenes with the propositional reading that is associated with PRs (see Koenig and Lambrecht 1997 for discussion). This is seen in the following sentences for the –ing form in English:

- 33) a. I see John running
- b. I don't see John running
- c. #I see John not running
- 34) a. I hear a woman laughing
- b. *I don't hear a woman laughing
- c. #I hear a woman not laughing

This data confirms this view: the propositional status of the PR is affected by negation and partitives as subject DP. In (33 b.), the matrix verb loses its perceptive meaning and takes on an epistemic value meaning “I can't picture John running”, in (34 b.) we see how the fact that the verb *hear* cannot be an epistemic verb renders the sentence ungrammatical. (33 c.) could be paraphrased as “I see John and he is not running” or “I see John, who's not running.”

which is not a suitable paraphrase to a Pseudo Relative, but to an appositive relative. Looking at the propositional content of an appositive relative, there is no problem in having:

- 35) a. I see John, who is running at the moment =
 b. I see John and he is running at the moment

When adding such a temporal modifier to a construction expressing the eventive reading of a genuine PR, the result is very strange:

- 36) ???I see John running at the moment

Comparing (33 c.) to a sentence like “I see the train not coming”, we can sense the difference in semantic value between them both. The latter does hold the propositional value of the Pseudo Relative, as it could not be replaced by an appositive paraphrase as “I see the train and it’s not coming”; its meaning is actually “I don’t see the train”. Following the same reasoning as before, we can also see that it is impossible to add something as “at the moment” without getting weird results.

What this behavior seems to indicate is how intricate the aspectual dependency between the matrix verb and eventive reading of the complement it selects is. The surface differences between “I see John not running” and “I see the train not coming” are on the subject DP and embedded verb. The relevant difference seems to be on the subject:

- 37) a. I see John not coming
 b. #I see the cat not coming
 c. ?I see the car not coming

In (37) every sentence may have PR as long as the subject is not under our direct perception but it is extremely hard getting that meaning. This does not mean, however, that

features on the DP do not influence PR availability in syntax. This can be attested for the DP internal configuration with the verb *stand* (supportare), the one Cinque uses in (28):

- 38) a. I can't stand men smoking = PR
b. I can't stand these men smoking = PR or RC
c. I can't stand three of the four men smoking = RC
d. I can't stand the men smoking = PR or RC
e. I can't stand the old men smoking = RC or ?PR
f. I can't stand the three men smoking = RC
h. I can't stand the three of them smoking = PR

(38) shows, apart from (38 h.), how features on the same DP influence the availability of the prepositional reading. This stems from the aspectual and propositional value of the whole sentence; especially one cannot negate seeing something without asserting that the referred event took place. Likewise, one cannot say that he saw an event being performed by no one unless committing to a high degree that he expected an event to happen.

3.2.1. European Portuguese

In Brito (1995), it is argued that Pseudo Relatives exist in EP, selected by perceptive verbs such as *ver*, *ouvir* and *sentir* and introduced by a complementizer similar to the one that introduces Relative clauses, *que*:

- 39) a. Vejo o teu filho que está a chorar
b. Vejo o João que se aproxima
c. Vejo um avião que está a aterrar

This is not, however, a common construction, European Portuguese has a much more productive strategy with the *a+verb* format, commonly labeled as Prepositional Infinitival Construction, instead of the classic Pseudo RPR introduced by a complementizer such as *que*. Still, the existence of the *que* Pseudo Relatives cannot be dismissed, because they do occur when selected by an expression such as *eis, é* or *há*, in everyday language:

- 40) a. *Eis o Pedro que chega finalmente*
 b. *É / há o teu filho que está a chorar*

What is not disputable is that, unlike in other romance languages, both in Italian and French, the Pseudo Relative in EP does not allow for cliticization (41) or passivization (42) of its subject, as shown by Brito:

- 41) **Vi-o que estava a chorar*
 42) **O teu filho foi visto que estava a chorar*

Also reported by Brito is the fact that Pseudo Relative predicates can never be individual-level predicates, but only stage-level predicates, as shown in (40):

- 43) a. **Ei-lo que sabe poesia!*
 b. **Ei-lo que possui muito talento!*

An argument we offer in saying that in EP PRs are not the same as in other languages is distribution, PRs do not occur in every context as a SCl:

- 44) a. SCls in locative contexts: **A Maria está lá que chora mais que nunca*
 b. Adjunct SCls predicated of a subject: **O João saiu da sala que estava a sorrir*
 c. SCl in absolute contexts: **Com o João que dorme não saio de casa*

d. SCl in incredulity contexts: *O João que nos ajuda? Não acredito!

Operations on EP' SCl are also bound to give strange results, (45) is a pseudocleft and (46) is pronoun resumption with a pronoun with [-animate] trace:

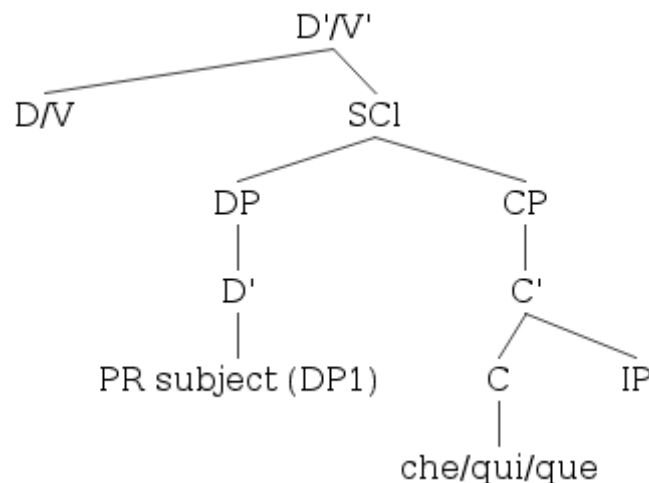
45) ?O que vejo é o João que sai.

46) ?Vi algo inesperado, O João que saía de casa.

3.3. Conclusion

In syntactic and semantic terms, Pseudo Relatives are selected when verbs can take a perceptive meaning, even though they do not always behave the same, being either complements or adjunct to the verbs or being in a DP-internal position functioning as a temporal modifier. Its head can only be the subject, never an internal complement of the embedded verb, and the complementizer that introduces it is not a relative pronoun. Looking at its distribution and coordinating possibilities, it can only be considered a SCl. The Pseudo Relative is also sensible to the semantics of both the subject and the embedded verb, while this is still not thoroughly explained; they should always match its features in relation to the event reading that a Pseudo Relative always conveys. In EP, PRs are only limitedly available and do not behave in the same way as PRs in Italian or French.

To sum up, PRs are SCIs, headed by a complementizer, which is not a relative pronoun, anchoring only on the subject and expressing an event that attaches to the matrix VP as a complement or an adjunct, and can also enter a DP internal adverbial position:



IV. PREPOSITIONAL INFINITIVAL CONSTRUCTION

4.1. Introduction

In the contexts in which other Romance languages use a pseudo-relative, it is more common for perceptive verbs, in EP, to take a complement of the form *DP a V_{Inf}* (with or without inflected infinitive) called *Prepositional Infinitival Construction (PIC)*, illustrated in (47):

- 47) a. Eu vejo as crianças a brincar(em)
 b. Ele ouve as pessoas a conversar(em)

4.2. Overview

Raposo (1989) and Duarte (1992) have shown that PIC should be considered a single constituent, given its behavior when put through constituency tests, (48) is a pseudocleft, (49) is topicalization and (50) is isolation as an answer:

- 48) O que ele viu foi os meninos a sair(em) de casa
49) Os meus alunos a copiarem no exame_i, eu não vi _i.
50) - Sabes o que eu vi?
 - Os meninos a comprar(em) borrachas.

Raposo points out that its single constituent status is due to the matrix verb's thematic grid. Verbs like *persuadir* (persuade) have two thematic roles to assign, a theme θ -role, to a DP [+human], and a goal θ -role, most commonly assigned to a VP. Perception verbs have only one θ -role to assign though, one usually sees a person, an object or an event. This forces the sequence *DP a VP* to be interpreted as one constituent as it is assigned a θ -role as a whole. This influences how PIC behaves, since, in context of a verb such as *persuadir* (persuade), PIC can be nominalized, but in context of a perceptive, which can only assign one θ -role, it cannot:

- 51) a. Eu obriguei os meninos a ler esse livro
 b. Eu obriguei os meninos à leitura desse livro.
 c. *Eu vi os meninos à leitura desse livro.

The author also takes this evidence to assume that the *a* in PIC is the same as the dative preposition, because when nominalized it is pronounced as [α], which is the contraction of the preposition and the feminine definite article “a”.

Unlike what Raposo states, it is not impossible for PIC to be nominalized when selected by a perceptive verb:

- 52) a. Eu vi as crianças a saltar
 b. Eu vi as crianças aos saltos

- 53) a. Eu ouvi o João a gritar
 b. Eu ouvi o João aos gritos

Although these examples show that the nominalization is possible, it is neither as productive, since (51 c.) is ungrammatical, or as stable as nominalizations in context of verbs of the *obrigar* (force) class (cf. (51)).

- 54) a. Eu vi a Maria a ir para a praia
 b. Eu vi a Maria à ida para a praia

A nominalization like the one in (54 b.) can have the same meaning as PIC but can also refer to the subject of the matrix verb, working as an adverbial, meaning “while going to the beach”. Some predicates can only have this second meaning:

- 55) a. Eu vi a Maria João a abrir loja
 b. Eu vi a Maria João à abertura da loja

A closer look seems to suggest that these nominalizations are restricted to some aspectual properties of the embedded predicate, as both (52 b) and (53 b.) convey a continual repetition of events that are short enough in nature to be witnessed more than once, similar to adding *on and on* to a sentence, like “I heard the boy screaming on and on” (he screamed one, two, three, four times). These same predicates can enter a construction with the aspectual auxiliary *dar* (give):

- 56) a. Eu vi as crianças dar um salto/ vários saltos
 b. Eu vi o João dar um grito/ vários gritos
 c. *Eu vi os meninos dar uma leitura / várias leituras desse livro

PIC in itself has a progressive meaning with which the embedded verbs in PIC must be compatible, which is similar to the -ing form in English, placing the subject in the course of that given event, according to Raposo, it is the preposition *a* what is responsible for the progressive meaning of the PIC, as can be seen by the absence of this meaning when comparing to a bare infinitive:

- 57) Eu vi os meninos ler(em) o livro.

From this, it would be reasonable to assume that not all verbs could enter the PIC construction, especially stative verbs. However, this is not the case:

- 58) a. Eu vejo o meu filho a ser médico
 b. Eu vi o pássaro a desejar voar
 c. Eu vi o João a querer um bolo

While the sentences are completely acceptable, they do not constitute an example of direct perception, as Raposo called the property of perceptive verbs when selecting PIC, but instead they express a wish or opinion, putting the event in the future and committing, to some level, to it being possible or likely to come true or expressing a great desire in seeing that happening. When this meaning occurs it is possible to have a bare infinitive:

- 59) a. Eu vejo o meu filho ser médico
 b. Eu vi o pássaro desejar voar
 c. Eu vi o João querer um bolo

Comparing the event reading in PIC and the possibility of having a bare infinitive, it is observed that the presence of the preposition gives not only the progressive meaning but the sense of witnessing the event. When the preposition is absent, not only do we lose the progressive reading but also the sentence is more readily interpreted as a state or property:

- 60) a. Eu vejo o meu filho a jogar à bola
 b. Eu vejo o meu filho jogar à bola

(60 b.) is interesting because it has more than one meaning. The first one would be attainable by having the matrix verb as a modal verb. Accordingly, the DP *o meu filho* is the object and the whole sentence is predicated as a property onto the matrix subject with the reading: I watch him play football, since I attend his games. The second reading is the SCI reading which predicates on his subject a given property, in this case, the ability of playing football, eventually, as a profession.

All this raises a question about the structure of PIC. A first possibility would be having a DP as the head of PIC, but, like shown by Raposo, the inability of the DP *os meninos* in triggering verbal agreement dismisses this possibility.

- 61) a. O que eu ouvi foi /*foram [os meninos a falar(em)]
 b. [Os meninos a dormir(em) é/*são um espectáculo lindíssimo

There is the possibility of PIC being headed by an INF like infinitival clauses analyzed in Raposo (1987), but this, too, is ruled out by the author, because of a distribution mismatch between PIC and infinitival clauses headed by INF. PIC cannot be a clausal subject (62 a.), an adjunct clause selected by a case assigning preposition (62 b.) nor a complement of an epistemic or declarative verb (62 c., d.):

- 62) a. *É difícil [os meninos a trabalhar(em)]
 b. *Eu saí para [os meninos a trabalhar(em)]
 c. *Eu lamento [os meninos a trabalhar(em) tanto]
 d. *Eu penso [a continuar(em) os meninos a chegar cedo]

PIC can also occur where infinitival complements headed by I cannot, syntactic isolation (63 a.), subject position (63 b.) and as complement to volitional verbs (63 c.):

- 63) a. [Os meninos a fumarem]! Isso é um horror
 b. [Os meninos a fumarem] é um espectáculo horrível
 c. Eu quero [os meninos a trabalhar(em) já]

Looking at the distribution of PIC, Raposo notes its similarities to SCIs headed by prepositions, as both can be arguments of perceptive verbs (64) and other predicates, like *querer* (want), (65) and be topicalized (66) or pseudoclefted (67):

- 64) a. Eu vi os meninos no quarto.

b. Eu vi os meninos a nadar.

65) a. Eu quero o livro na estante.

b. Eu quero os meninos a trabalhar.

66) a. Os meninos no jardim, de certeza que ele não viu.

b. Os meus alunos a copiar no exame, eu não vi.

67) a. O que ele viu foi os meninos no jardim.

b. O que eu vi foi os meninos a sair de casa

Within SCIs, PIC matches the distribution of only those headed by a preposition. A verb like *considerar* (consider) takes SCIs in its adjectival status, but not SCIs headed by a preposition nor PIC, which offers further proof of PIC being a preposition headed SCI.

68) a. Eu considero [os meninos inteligentes]

b. *Eu considero [os meninos no jardim]

c. *Eu considero [os meninos a trabalharem]

All these similarities make the author assume that PIC should be a control structure, as the relation between *DP a V* mimics the one between *DP a V* found in object control structures. As such, the differences should be attributed to the status of the preposition, lacking progressive reading and predicative function, being instead interpreted as an instance of the dative preposition.

69) a. Eu obriguei os meninos a ler esse livro

b. Eu vi os meninos a ler esse livro

The progressive meaning and predication to its subject comes from the preposition keeping its status as the head of a SCl, which it loses since, as previously established, a verb like *obrigar* (force) can assign it a goal θ -role, which cannot happen with the perceptive verbs. So, we can now conclude that the differences in behavior found for PIC are in the matrix verbs and their thematic grid in allowing either one or two arguments. This is seen with verbs that allow PIC and may have a perceptive meaning, like *encontrar* (find), *deixar* (leave) or *apanhar* (catch), but for which PIC is not a single constituent.

- 70)
- a. *O que ele apanhou foi os meninos a roubarem
 - b. *Os meninos a fumar, não penso que a Maria tivesse encontrado
 - c. *Sabes o que o Luis deixou? A Maria a chorar
 - d. *Ele apanhou os meninos a fumar, mas eu não apanhei

A more careful look at these verbs shows that they allow for an optional locative θ -role. Raposo's point is substantiated, since, when this optional locative θ -role is assigned to something like *no parque* (in the park), all the sentences in (70) become grammatical.

- 71)
- a. O que ele apanhou no parque foi os meninos a roubarem
 - b. Os meninos a fumar, não penso que a Maria tivesse encontrado no parque
 - c. Sabes o que o Luis deixou no parque? A Maria a chorar
 - d. Ele apanhou os meninos a fumar no parque, mas eu não apanhei

Extrapolating from the behavior observed for SCIs and taking PIC to be a preposition headed SCl, we can conclude that PIC attaches to the matrix VP in two possible configurations: complement or adjunct.

Duarte (1992) disputed Raposo's analysis of PIC being a SCl headed by a preposition, as it would predict the same behavior to all SCl headed by prepositions, which is not true, since verbs that select for prepositional SCIs do not allow PIC (72) and those allowing both do not behave the same (73):

- 72)
- | | | |
|----|-----------------|--------------------------------------|
| a. | Eu considero-os | com idade para se portarem bem |
| | | sem juízo |
| | | com possibilidades de vencer a prova |
| | | em franca recuperação |
-
- | | | |
|----|------------------|-------------------------------------|
| b. | *Eu considero-os | a portar(em)-se bem |
| | | a não recuperarem satisfatoriamente |

- 73)
- a. O que é que supunhas?
- *Os meninos com febre
- b. - O que é que supunhas?
- Os meninos a fazer(em) os trabalhos

Duarte also states that analyzing PIC as a control structure predicts that lexical items should be able to occur between the preposition and the infinitival verb (74), that no differences in behavior between the inflected and non-inflected infinitive should exist (75), and that an anaphoric pronoun or a floating quantifier could fill the subject position of the infinitive verb, as it is possible with raising verbs (76) (77):

- 74)
- | | |
|----|--|
| a. | *Vi os meninos a ontem comprarem borrachas |
|----|--|

- b. Demos-lhes dinheiro para amanhã irem ao cinema
- 75) a. Os meninos foram vistos a comer gelados
b. *Os meninos foram vistos a comerem gelados
- 76) a. *Vimos [os meninos]_i a fazer [eles]_i o jantar
b. [Os meninos]_i querem fazer [eles]_i o jantar
- 77) a. *Vi os meninos a todos pro comprarem borrachas
b. Demos-lhes dinheiro para todos pro irem ao cinema

The same analysis also makes no statement on the occurrence of auxiliaries, which are not allowed:

- 78) a. *Vi os meninos a ter(em) comido gelados
b. Voltámos para casa sem os meninos terem brincado no jardim

The same impossibility happens with absolute participial construction:

- 79) a. *Tido chegado o João, a reunião começou.
b. *Tido o João chegado, a reunião começou

Building on these data, Duarte claims that there is no tense node in PIC, and the best analysis should be as the projection of an aspectual node in which *a* and the morpheme *-r* act as a single morpheme when in context of a perceptual verb and as the preposition *a* plus an aspectual projection from only the morpheme *-r* in context of an aspectual verb.

Barbosa and Cochofel (2004) dismiss Duarte's claim of analyzing *a-r* as a single item by giving some examples from oral speech in which there actually is lexical material in-between these two lexemes:

- 80) a. Eu não estou a ver o Primeiro-ministro a, de repente, ceder poderes ao Presidente da República. [Prof. Marcelo Rebelo de Sousa, TVI 26/01/03]
- b. Todos nós vimos Deco a não meter um golo. [Comentador desportivo da SIC]

Barbosa and Cochofel offer further evidence of PIC being a SCl in the form of its coordination possibilities: it is generally accepted that only items of the same categorical nature can be coordinated, and, regarding PIC, it is possible to have coordination between PIC and other preposition headed SCl:

- 81) a. Cheguei a casa, vi a Maria na cama e o António a ver televisão

Addressing the issue of whether PIC is a control structure, these authors look at how PIC behaves in the context of weather verbs. Duarte's analysis would allow for (82 a.) but it is ungrammatical. The only explanation for PIC's behavior with expletives is to see it as a control structure for the reason that, as Jaeggli and Safir (1989) have concluded, PRO cannot be an expletive.

- 82) a. *Eu vi a chover
- b. Eu vi chover

Romance languages which do not have inflected infinitives do not allow for infinitival weather verbs, selecting a Pseudo Relative instead. Examples from French:

- 83) a. *Il est impossible de pleuvoir demain

b. Il est impossible qu'il pleuve demain

Unlike bare infinitives, PIC does not allow for post-verbal subjects:

- 84) a. Eu vi entrarem três raparigas na sala
 b. *Eu vi a entrarem três raparigas na sala

- 85) a. Eu vi três raparigas entrarem na sala
 b. Eu vi três raparigas a entrarem na sala

Barbosa and Cochofel argue this behavior is what one expects to occur in a control structure, since the ungrammaticality is explained by a violation of condition C of Binding theory, as we would have an R-expression bound by an empty category. Barbosa and Cochofel show that the occurrence of anaphoric pronouns or bare quantifiers yields grammatical results if an adequate controller is present pre-verbally:

- 86) a. Vimos os meninos a fazerem eles o jantar
 b. Vimos os meninos a fazerem todos o jantar.

The difference in grammaticality between the inflected and non-inflected form can be credited to the presence of an AGR node, allowing Spec VP to be filled by either the pronoun or the quantifier, even though the inflected 3rd person infinitive verb (fazer) is morphologically similar to the non-inflected (fazer). The same pattern is observed in object control structures in respect to the occurrence of pronouns or floating quantifiers:

- 87) a. Obrigámos/convencemos os meninos a fazerem todos o jantar
 b. *Obrigámos/convencemos os meninos a todos fazerem o jantar

- 88) a. Obrigámos/convencemos os meninos a fazerem eles o jantar
b. * Obrigámos/convencemos os meninos a eles fazerem o jantar
- 89) a. Vimos os meninos a fazerem todos o jantar
b. *Vimos os meninos a todos fazerem o jantar
- 90) a. Vimos os meninos a fazerem eles o jantar
b. *Vimos os meninos a eles fazerem o jantar

The last argument given by Barbaso e Cochofel in favor of PIC being a control structure comes from comparing it to Pseudo Relatives from other languages. Just like PIC, they too allow for its subject to be an accusative clitic and to undergo the derivation of being subject of a passive clause:

- 91) a. Je le vois ec qui arrivent
b. Li vedo ec che arrivano (Burzio 1986:300)
- 92) a. Marie a été vue ec qui embrassait Jean
b. Giovani fue visto ec che parlava con Maria (Burzio 1986:300)
- 93) a. O teu filho foi visto a chorar
b. Vi-o a chorar

As Raposo had noted, the preposition is responsible for the progressive meaning of PIC and Duarte stated that PIC is a time defective constructive or, in post-Pollock (1989) terms, an IP with [-T, +AGR] traces. Mentioning Demidarche and Etxabarria's (1997) analysis for the

relation between prepositions and aspect, Barbosa and Cochofel make Raposo and Duarte's analysis converge. Demidarche and Etxabarria say aspect is responsible for linking the time, expressed morphologically and syntactically as tense, and T0, the assertion time, and these features are dealt with in syntax by a TP and an AspP node. Hale (1985) defines these space-time relations as *central* and *non-central* coincidence of a *figure* in relation to a *ground*. These relations are expressed by prepositions like *in*, *at*, *on*, etc., a preposition like *out of* conveys the beginning of the figures' trajectory in relation to a given ground. Demidarche and Etxabarria apply Hale's work to time and aspect, saying the time of the event expressed by the VP is the *ground*, its aspect is the *figure* and its relation to another VP gives a *central* or *non-central* coincidence relation. The progressive meaning is one of central coincidence, locating a VP within the beginning and end boundaries of the event expressed by another VP. Barbosa and Cochofel apply this to PIC, and treat *a* as a central coincidence preposition, the head of an AspP node.

Being headed by an AspP head allows to anticipate some aspectual and lexical restrictions for PIC. This is seen in (94). The event reading in PIC establishes a time window with which the perceptive notion of the matrix (hear, see or sense), and its tense must be compatible, meaning the embedded verb must respect the perceptive ability of the matrix verb (it is impossible to hear someone blinking or fall sleep) and the truth value commitment ends when the time frame of the matrix ends:

- 94) a. I saw John sleeping
 b. When I went by the cafeteria, I saw John sleeping
 c. #When I went by the cafeteria, I saw John about to sleep

When we hear or read a sentence like *I saw John sleeping on the couch*, we established a truth value commitment between the speaker and the fact that John was indeed sleeping on the couch. Going back to the matrix verb found in (68), *considerar* (consider), we observe that that truth value commitment cannot be established. The same happens with other epistemic verbs like *suppose*, *expect* or *believe*. We will explain the behavior from this group of verbs the later ahead.

In both (94 a.) and (94 b.), we established that John has indeed slept, we make no mention of when he fell asleep, if he is still sleeping or has already woken up. In c., the mismatch of time does not allow to infer if John slept, the only possible meaning would be that John seemed tired or drowsy, because *about to* ordines propositions in a sequential way. This view could be a problem for the occurrence of PIC with a verb like *imaginar* (imagine), since by default it would mean that something is not happening, but PIC, much like the –ing form, can be selected by such verbs:

- 95) a. Eu imaginei o João a dormir
 b. *Eu considerei o João a dormir
 c. *Eu supus o João a dormir
 d. I imagined John sleeping
 e. *I considered John sleeping
 f. I assumed John sleeping

But why should a SCI licensing verb like *considerar* (consider) or any other epistemic verb not take PIC? The answer lies in the aspectual dependency between PIC and the matrix verb. Looking at sentences like:

- 96) a. #Eu vi o João a correr, apesar de ele estar sentado
 b. #Eu vi o João gordo, apesar de ele ser magro
 c. Eu considero o João gordo, apesar de ele ser magro

The difference between these verbs is that they select propositions. Our interpretation is that PIC and the matrix verb is a single proposition, receiving a single truth value and time frame to which the aspectual properties of both verbs must comply:

- 97) a. Eu ouvi o João a cair

b. Eu vi o João a cair

c. Eu senti o João a cair

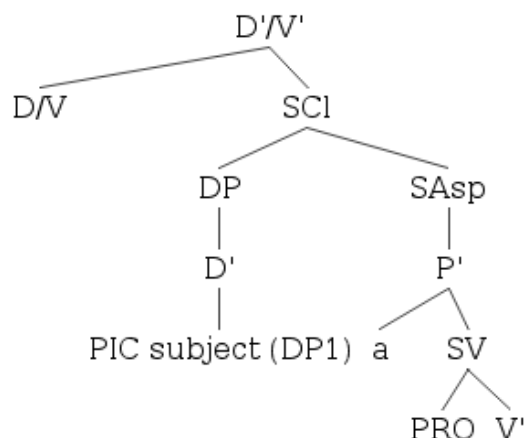
If we observe these three sentences, we see how the aspectual properties of the verbs almost seem to “merge”. In (97 a.), we get the feeling that the event produced a big sound. In (97 b.), we simply witnessed that something happening and in (97 c.) we felt John’s hand slip away because he fell. So which aspectual properties can we really attribute to PIC? We would attribute to PIC only the progressive reading, with which the verb must be compatible. If the aspectual properties imposed by the selecting verbs have been shown in (97), in (98) we see the limitations in terms of time imposed by the selecting element to PIC:

98) a. I saw a video of a man dying

b. I saw a photo of a man dying

A video captures moments of time, so there is no problem in interpreting (98 a.) as watching a tape of a man passing away, but a photo is a still moment, it does not capture an event *per se*. So, the interpretation of (98 b.) is: “a photo of a man (while) in his last days”, a meaning completely compatible with a DP-internal adverbial modifier.

Summing up, PIC is a control SCl, headed by an Asp node, imposing progressive reading on its embedded verb, and it must comply to aspectual restrictions in terms of perception by the selection element, which can be a verb or a DP.



4.3. Conclusion

At this point we believe to have argued for the prepositional SCI status of PIC, not only by its distribution but also by its coordination possibilities. Like SCI, PIC can enter a configuration of adjunct or complement to the matrix verb. As Barbosa and Cochofel (2001) have established, it is possible to have words between the preposition and the infinitival verb. We would like to add that the limitations pointed out by Duarte (1992) should be credited to the fact that time adverbials in that position would only have scope over the verb in PIC and not the matrix verb, which renders the sentences ungrammatical.

Barbosa and Cochofel's analysis also allow explaining why verbs that do take prepositional SCI may not take PIC. This would be due to a mismatch of aktionsart between the matrix verb and the one of PIC, as Raposo suggests, PIC conveys a "direct perception", which with it brings a level of commitment inadequate to a predicate such as *to assume*. In English, a sentence like *I assumed you running* is ungrammatical, its grammatical equivalent being *I assumed you were running*. This impossibility of truth value commitment is expressed in Portuguese with the conjunctive and, as such, PIC yields an ungrammatical sentence. Duarte's claim that PIC does not have a tense node because of the unavailability of the auxiliary *ter* should instead be credited due to the aspectual limitations imposed to PIC in context of a perceptive verb, because *ter* would coordinate events just like *about to*.

PIC's single constituent status is proven as well. As argued by Raposo, it receives a single thematic role, which is responsible for the event reading related to PIC- We have also shown how PIC is under aspectual and time restrictions imposed by the selecting element, when these restrictions can be imposed by a DP, such as *photo*, PIC can enter an adverbial DP-internal configuration, *a fotografia do menino a dormir / the photo of the boy sleeping*. With this DP internal position possibility, PIC is be able to enter every configuration and display every property PRs display.

V. HYPOTHESIS

The working hypothesis for the current work is the claim made by Grillo and Costa (2011) that the availability of PRs leads to a high or low attachment preference. When such structure is available, high attachment preference is to be expected. The authors assume that this preference will hold between every language and to every correlate of Pseudo Relatives – like the -ing form in English or PIC in Portuguese. The current work will test their prediction when it comes to PIC and Pseudo-relatives in European Portuguese.

VI. EXPERIMENT 1

6.1 Reasoning

The first experiment consisted of testing attachment preferences for PIC. It was designed as a 2x2 experiment crossing position – subject or object – and type – availability of PR reading or not. A schematic outline of the experiment is offered below:

Condition A: DP Verb_{perceptive} DP1 de DP2 a Verb

Condition B: DP_{eventive} de DP1 de DP2 a Verb Verb_{copulative} Adj

Condition C: DP Verb_{non-perceptive} DP1 de DP2 a Verb

Condition D: DP_{non-eventive} de DP1 de DP2 a Verb Verb_{copulative} Adj

From this schematic, we derived the items of the test. The first item is offered below:

A: Alguém viu o filho do médico a jantar

B: A fotografia do filho do médico a jantar é velha

C: Alguém divide a casa com o filho do médico a jantar

D: O carro do filho do médico a jantar é velho

Condition A has PR reading available in the object position, condition B has PR reading in the subject position, condition C is a no-PR reading in object condition and condition D consists of no-PR reading in subject condition. All the conditions were created trying to keep distinctions between them to the minimum. That is why the verb embedded in PIC was always the same, so that some aspectual properties of a certain verb would, at least, affect all conditions, and, in this way, we could controlling any biased reading the verb could induce. We applied the same reasoning to the DPs, in one item we had the DPs *tia da menina a saltar* and we realize that it could exist a potential bias in attaching, since it is more likely that a girl

would be jumping than her aunt, but, given that all conditions in that item were kept alike, we do not anticipate that it could influence in a significant way the results. Our goal in having everything as similar as possible was so that any distinction in terms of results could be attributed solely to the matrix verb or the DP that introduces an event. Still, we do not rule out possible effects of aspectual properties, PIC with a PR reading is under several restrictions and to observe that, items 21 to 24 consist of matrix verbs and verbs embedded in PIC that had been previously used. Another possible and legitimate observation is the fact that condition C introduces PIC after a preposition, this is so, due the possible DP-internal configuration of PIC, if we think of a sentence in the lines of Cuetos and Mitchell (1988):

- 96) Alguién disparó a la criada de la actriz que estava en el balcón

We could have had a similar sentence with PIC:

- 97) Alguém disparou contra a criada da atriz a correr
 98) O João beijou a filha da médica a cozinhar
 99) A Maria cumprimentou o sobrinho da professora a estudar

These sentences would not allow to fully control PR reading, in light of all the properties of PIC described earlier, not only when it comes to the DP-internal adverbial configuration, but also the adverbial construction referring to the matrix subject. As such, condition C always had a verb predicating a property onto a person, excluding the possibility of having PIC, even in the adverbial DP- internal position, because one cannot share a home with someone in the time frame in which someone does something. With this in mind, we still included two perceptive verbs that select for prepositional complements, *sonhar com* e *olhar para* to account for possible effects from the preposition.

6.2. Methodology

The questionnaire was applied to 20 subjects; all native speakers of Portuguese, using a PC running *Linger*, each subject saw only one condition of each item. We had 24 items and 80 fillers, since subjects would only see one condition of each item they would answer to 104 questions, the 80 fillers and 24 test conditions. They would see the stimuli and were then offered the chance of choosing between two sentences, each with one of the two DPs. The order by which the DPs appeared was also counterbalanced, since the answer to both the fillers and the items consisted in choosing between two DPs, we made DP1 to be presented as the first option in 50% of the times and as the second option in the other half of the times.

6.3. Results

Here we present a table depicting the percentage of high attachment obtained for every item and condition and its totals:

| Item | a | b | c | d | Total |
|--------------|-------------|-------------|-------------|-------------|-------------|
| 1 | 1,00 | 0,20 | 0,60 | 0,25 | 0,55 |
| 2 | 0,80 | 0,40 | 0,40 | 0,20 | 0,45 |
| 3 | 1,00 | 0,25 | 0,00 | 0,33 | 0,40 |
| 4 | 0,50 | 0,40 | 0,00 | 0,00 | 0,25 |
| 5 | 1,00 | 1,00 | 0,00 | 0,50 | 0,65 |
| 6 | 0,75 | 0,40 | 0,00 | 0,00 | 0,25 |
| 7 | 0,80 | 1,00 | 0,20 | 0,33 | 0,55 |
| 8 | 1,00 | 0,80 | 0,50 | 0,40 | 0,70 |
| 9 | 0,60 | 0,50 | 0,00 | 0,50 | 0,40 |
| 10 | 0,75 | 0,80 | 0,17 | 0,40 | 0,50 |
| 11 | 0,80 | 0,75 | 0,20 | 0,50 | 0,55 |
| 12 | 0,67 | 0,80 | 0,50 | 0,60 | 0,65 |
| 13 | 0,40 | 0,83 | 0,20 | 0,25 | 0,45 |
| 14 | 0,75 | 0,80 | 0,33 | 0,40 | 0,55 |
| 15 | 0,60 | 0,75 | 0,00 | 0,17 | 0,35 |
| 16 | 0,83 | 1,00 | 0,25 | 0,20 | 0,60 |
| 17 | 1,00 | 0,50 | 0,40 | 0,75 | 0,65 |
| 18 | 1,00 | 1,00 | 0,00 | 0,80 | 0,65 |
| 19 | 1,00 | 0,75 | 0,20 | 0,50 | 0,60 |
| 20 | 0,67 | 0,60 | 0,25 | 0,40 | 0,50 |
| 21 | 0,80 | 1,00 | 0,00 | 0,50 | 0,60 |
| 22 | 0,50 | 0,60 | 0,17 | 0,20 | 0,35 |
| 23 | 0,60 | 0,75 | 0,40 | 0,50 | 0,55 |
| 24 | 0,83 | 1,00 | 0,25 | 0,40 | 0,65 |
| Total | 0,78 | 0,71 | 0,20 | 0,38 | 0,52 |

Table 1: average of high attachment per item and condition

| Subject | a | b | c | d | Total |
|--------------|-------------|-------------|-------------|-------------|-------------|
| 1 | 0,63 | 0,60 | 0,20 | 0,17 | 0,42 |
| 2 | 1,00 | 0,67 | 0,33 | 0,50 | 0,63 |
| 3 | 1,00 | 0,67 | 0,33 | 0,67 | 0,67 |
| 4 | 0,67 | 0,33 | 0,17 | 0,00 | 0,29 |
| 5 | 0,50 | 0,50 | 0,33 | 0,83 | 0,54 |
| 6 | 1,00 | 0,83 | 0,33 | 0,17 | 0,58 |
| 7 | 0,67 | 0,50 | 0,00 | 0,00 | 0,29 |
| 8 | 0,83 | 0,83 | 0,17 | 0,50 | 0,58 |
| 9 | 0,83 | 0,67 | 0,00 | 0,33 | 0,46 |
| 10 | 0,50 | 0,50 | 0,00 | 0,50 | 0,38 |
| 11 | 0,67 | 0,83 | 0,33 | 0,67 | 0,63 |
| 12 | 0,67 | 0,50 | 0,00 | 0,17 | 0,33 |
| 13 | 1,00 | 0,83 | 0,33 | 0,83 | 0,75 |
| 14 | 0,50 | 0,83 | 0,33 | 0,33 | 0,50 |
| 15 | 0,83 | 0,83 | 0,50 | 0,50 | 0,67 |
| 16 | 0,83 | 0,83 | 0,17 | 0,50 | 0,58 |
| 17 | 0,67 | 1,00 | 0,00 | 0,17 | 0,46 |
| 18 | 1,00 | 1,00 | 0,00 | 0,17 | 0,54 |
| 19 | 1,00 | 0,83 | 0,33 | 0,50 | 0,67 |
| 20 | 0,83 | 0,50 | 0,17 | 0,00 | 0,38 |
| Total | 0,78 | 0,71 | 0,20 | 0,38 | 0,52 |

Table 2: Percentage of high attachment per subject and condition

Since the prediction was that PIC would display high attachment when associated to a PR reading and low attachment when interpreted as a reduced relative clause, we would expect that the average per item would even out and the average per condition would show a high percentage of high attachment in conditions A, and B and low percentage of high attachment in conditions C and D. Looking at the totals, that is exactly what we get: condition A had 78% high attachment preference and condition B had 71%. Condition C has just 20% high attachment and condition D had 38%. The prediction in itself is fully fulfilled, when faced with a general average of 52% high attachment. Since the experiment was designed as a 2x2, we ran a *Two-way ANOVA* on SPSS and obtained a significant effect of *Type* ($F = 112,081$ Sig = ,000), no significant effect of *Position* ($F = 1,291$ Sig = ,259) and a significant interaction between *Type* and *Position* ($F = 8,302$ Sig = ,005)

VII.EXPERIMENT 2

7.1. Reasoning

The second experiment consisted of testing attachment preferences for *que* clauses. It was in every way similar to the first experiment, it was as a 2x2 experiment crossing position – subject or object – and type - availability of PR interpretation or not - as well. A schematic of the experiment is offered below:

Condition A: DP Verb_{perceptive} DP1 de DP2 que estava a Verb

Condition B: DP_{eventive} de DP1 de DP2 que estava a Verb Verb_{copulative} Adj

Condition C: DP Verb_{non-perceptive} DP1 de DP2 que estava a Verb

Condition D: DP_{non-eventive} de DP1 de DP2 que estava a Verb Verb_{copulative} Adj

From this schematic we derived the items of the test. The first item is offered below:

A: Alguém viu o filho do médico que estava a jantar

B: A fotografia do filho do médico que estava a jantar é velha

C: Alguém divide a casa com o filho do médico que estava a jantar

D: O carro do filho do médico que estava a jantar é velho

The reasoning that served as base to the first experiment was kept entirely and, as hinted above, the items were the same as the ones used in the first experiment, except for the adding of *que estava*. When creating these items we were faced with deciding between, for example for the first item, having *que estava a jantar* or just *que jantava*. We decided on having *que estava a Verb* because we assumed it would suit the restrictions of PRs better, because it forces projection of time and, as such, it would allow the eventive reading as well as the restrictive relative interpretation, unlike *que Verb* that might be more readily interpreted as a property and

as such violate PR reading. Our goals for this experiment were the same as for the first one, seeing if in PR conditions we would get more high attachment than for no-PR conditions. However, this experiment had an extra objective: since PR are not as productive as PIC, if the results were all similar across conditions, we would interpret that EP does not have PRs, if results matched the ones from PIC it would mean that PRs are as available as PIC and, finally, if the results were not as clear we would have evidence of how this structure is limited in EP. has PR reading available in the object position, condition B has PR reading in the subject position, condition C does not have a PR reading in object condition, and condition D has no PR reading in subject condition.

7.2. Methodology

The questionnaire was applied to 17 subjects; all native speakers of Portuguese; using a PC running *Linger*, each subject only saw one condition of each item. We had 24 items and 80 fillers, since subjects would only see one condition of each item they would answer to 104 questions, the 80 fillers and 24 test conditions. They would see the stimuli and were then offered the chance of choosing between both DPs. The order by which the DPs appeared was also balanced, since the answer to both the fillers and the items consisted in choosing between two DPs, we made DP1 to be presented as the first option in 50% of the times and as the second option in the other half of the times.

7.3. Results

Here we present a table depicting the percentage of high attachment obtained per item and condition and its respective totals:

| Item | <div><div></div>a</div> | b | c | d | Total | |
|-------|-------------------------|------|------|------|-------|------|
| 1 | | 0,6 | 0,5 | 0 | 0,5 | 0,41 |
| 2 | | 1 | 0 | 0,25 | 0 | 0,29 |
| 3 | | 0,25 | 0 | 0 | 0 | 0,06 |
| 4 | | 0,25 | 0 | 0 | 0,2 | 0,12 |
| 5 | | 0,6 | 0,75 | 0 | 0,5 | 0,47 |
| 6 | | 0,75 | 0,6 | 0,5 | 0,25 | 0,53 |
| 7 | | 0 | 0,5 | 0,4 | 0 | 0,24 |
| 8 | | 1 | 0,5 | 0 | 0,4 | 0,47 |
| 9 | | 0,8 | 0,25 | 0,75 | 0,25 | 0,53 |
| 10 | | 0,5 | 0,2 | 0,75 | 0,25 | 0,41 |
| 11 | | 0,25 | 0,25 | 0,2 | 0,5 | 0,29 |
| 12 | | 1 | 0,5 | 0,75 | 0,6 | 0,71 |
| 13 | | 0,2 | 0,5 | 0,5 | 0,5 | 0,41 |
| 14 | | 1 | 0,6 | 0,75 | 0,25 | 0,65 |
| 15 | | 0 | 0,25 | 0,2 | 0 | 0,12 |
| 16 | | 1 | 0,5 | 0,5 | 0,8 | 0,71 |
| 17 | | 0,4 | 0,75 | 0 | 0,25 | 0,35 |
| 18 | | 1 | 0,8 | 0,5 | 0,5 | 0,71 |
| 19 | | 0,5 | 0,25 | 0,4 | 0,5 | 0,41 |
| 20 | | 1 | 1 | 0,5 | 0,4 | 0,71 |
| 21 | | 0,8 | 0,75 | 0,5 | 0,5 | 0,65 |
| 22 | | 0,5 | 0,2 | 0,25 | 0,25 | 0,29 |
| 23 | | 0,25 | 0,5 | 0,2 | 0,25 | 0,29 |
| 24 | | 1 | 1 | 0,25 | 0,4 | 0,65 |
| Total | | 0,61 | 0,46 | 0,33 | 0,34 | 0,44 |

Table 3: average of high attachment per item and condition

| Subject | <div><div></div>a</div> | b | c | d | Total | |
|---------|-------------------------|------|------|------|-------|------|
| 1,00 | | 0,33 | 0,17 | 0,00 | 0,17 | 0,17 |
| 2,00 | | 0,83 | 0,67 | 0,67 | 0,00 | 0,54 |
| 3,00 | | 0,17 | 0,50 | 0,17 | 0,17 | 0,25 |
| 4,00 | | 1,00 | 0,00 | 0,33 | 0,33 | 0,42 |
| 5,00 | | 0,83 | 0,67 | 0,33 | 0,67 | 0,63 |
| 6,00 | | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 7,00 | | 0,83 | 0,50 | 0,33 | 0,33 | 0,50 |
| 8,00 | | 0,33 | 0,83 | 0,50 | 0,50 | 0,54 |
| 9,00 | | 0,67 | 0,50 | 0,17 | 0,50 | 0,46 |
| 10,00 | | 1,00 | 0,50 | 0,67 | 0,00 | 0,54 |
| 11,00 | | 0,17 | 0,33 | 0,33 | 0,00 | 0,21 |
| 12,00 | | 1,00 | 0,50 | 0,67 | 0,67 | 0,71 |
| 13,00 | | 1,00 | 0,67 | 0,67 | 1,00 | 0,83 |
| 14,00 | | 0,83 | 0,67 | 0,33 | 0,50 | 0,58 |
| 15,00 | | 0,17 | 0,67 | 0,17 | 0,33 | 0,33 |
| 16,00 | | 0,50 | 0,00 | 0,17 | 0,17 | 0,21 |
| 17,00 | | 0,67 | 0,67 | 0,17 | 0,50 | 0,50 |
| Total | | 0,61 | 0,46 | 0,33 | 0,34 | 0,44 |

Table 4: average of high attachment per subject and condition.

Just like in the former experiment, we predicted high attachment preference for conditions A and B, and low attachment preference for conditions C and D. Conditions A and B did get a higher high attachment preference at 61% and 45%, respectively, when compared with conditions C and D, with 33% and 34%. We ran a *Two-way ANOVA* in SPSS and there was a significant effect of *Type* ($F = 11,960$ Sig = ,001), no significant effect of *Position* ($F = 1,682$ Sig = ,198) and no significant interaction between *Type* and *Position* ($F = 1,500$ Sig = ,224). Looking at the numbers, we see that the results were not as clear as they were for the first experiment, which we would attribute to the fact that PRs in European Portuguese are not being as available and do not have the characteristics as PR in other Romance languages.

VIII. EXPERIMENT 3

8.1. Reasoning

With the goal of understanding the reading that subjects made for experiment 2, we ran a third questionnaire test with the goal of trying to identify features that conditioned PRs. The subjects were presented with sentences like the following, which is actually item 1:

Condition A: Vejo o João que corre

Condition B: Ouço a Maria que salta

Conditions A always contained the verb *ver* (see) and conditions B had *ouvir* (hear). After reading each, subjects had to choose between four options:

Option 1: O João está a correr / A Maria está a correr

Option 2: O João costuma correr / A Maria costuma correr

Option 3: Ambas / Ambas

Option 4: Nenhuma / Nenhuma

We assumed choosing 1 would be the PR reading, associated with seeing the event, option 2 would be equivalent to a restrictive relative reading, because *costuma* means *usually* and that would mean that what was seen, or heard, was the individual that *usually* does something, which would be a modifier of the noun. Option 3 was added to account for the fact that sentences as ambiguous, meaning both options 1 and 2, were to some extent available, especially with the possibility of an appositive relative reading. We also presented subjects a fourth option, *nenhuma*.

The reason why we always had perceptive verbs as matrix verbs was due to them being the best suited to trigger PR reading, and, if that reading was not available for them, which

select PR in argument status, neither would we expected for that to happen with verbs selecting PRs in adjunct position.

Along the items of the experiment, we manipulated features on the DP, like adding a post-nominal adjective for one item, pre-nominal adjectives for other and partitive expressions for other; having the DP as a proper noun, being plural or singular with the goal of having experimental evidence of the existence of those intervention effects and also to offer us some insight to why results for experiment 2 were not as clear as for experiment 1. Some items violated PR properties completely, like having a complementizer that can only introduce restrictive relatives, *o qual*, and having the head being the accusative or dative argument of the embedded verb:

Test item 22. b.: vejo o gato ao qual fazem festas

Test item 16. a.: vejo o filho que a mãe penteia

Our prediction for this experiment was that if there were great variation to answers across items it would mean that PR did suffer intervention effects from features on its subject and if the variation were across conditions it would be because of the embedded verb.

8.2. Methodology

We had 14 subjects, native speakers of EP, for this third questionnaire, who would only see one condition per item. The test was applied on a computer, through the Google Docs questionnaire feature. We had 22 test items, all with condition A and B, and 80 fillers. After reading the stimuli, subjects could only choose one option. The presentation of the options was counterbalanced balanced, meaning each option was in first position 25% of the times, second position other 25% of the times and in third or fourth position the other 50%.

8.3.Results

Here we present a table depicting the percentage each option was chosen per item and condition:

| item | a | | | | b | | | |
|-------|----------|----------|----------|----------|----------|----------|----------|----------|
| | option 1 | option 2 | option 3 | option 4 | option 1 | option 2 | option 3 | option 4 |
| 1 | 0,57 | 0,43 | 0,00 | 0,00 | 0,71 | 0,00 | 0,14 | 0,14 |
| 2 | 0,86 | 0,14 | 0,00 | 0,00 | 0,86 | 0,00 | 0,14 | 0,00 |
| 3 | 0,86 | 0,14 | 0,00 | 0,00 | 0,71 | 0,00 | 0,14 | 0,14 |
| 4 | 0,86 | 0,14 | 0,00 | 0,00 | 0,71 | 0,29 | 0,00 | 0,00 |
| 5 | 0,71 | 0,14 | 0,14 | 0,00 | 0,43 | 0,29 | 0,29 | 0,00 |
| 6 | 0,71 | 0,14 | 0,14 | 0,00 | 0,71 | 0,14 | 0,00 | 0,14 |
| 7 | 0,86 | 0,14 | 0,00 | 0,00 | 0,86 | 0,00 | 0,14 | 0,00 |
| 8 | 0,43 | 0,43 | 0,00 | 0,14 | 0,71 | 0,14 | 0,14 | 0,00 |
| 9 | 1,00 | 0,00 | 0,00 | 0,00 | 0,86 | 0,14 | 0,00 | 0,00 |
| 10 | 0,71 | 0,00 | 0,14 | 0,14 | 1,00 | 0,00 | 0,00 | 0,00 |
| 11 | 0,57 | 0,29 | 0,00 | 0,14 | 1,00 | 0,00 | 0,00 | 0,00 |
| 12 | 0,57 | 0,14 | 0,29 | 0,00 | 1,00 | 0,00 | 0,00 | 0,00 |
| 13 | 0,57 | 0,29 | 0,00 | 0,14 | 0,43 | 0,14 | 0,14 | 0,29 |
| 14 | 0,71 | 0,00 | 0,29 | 0,00 | 0,86 | 0,14 | 0,00 | 0,00 |
| 15 | 0,86 | 0,14 | 0,00 | 0,00 | 0,71 | 0,14 | 0,14 | 0,00 |
| 16 | 0,86 | 0,00 | 0,14 | 0,00 | 0,71 | 0,29 | 0,00 | 0,00 |
| 17 | 0,86 | 0,14 | 0,00 | 0,00 | 0,57 | 0,29 | 0,14 | 0,00 |
| 18 | 0,86 | 0,00 | 0,14 | 0,00 | 1,00 | 0,00 | 0,00 | 0,00 |
| 19 | 1,00 | 0,00 | 0,00 | 0,00 | 0,86 | 0,00 | 0,14 | 0,00 |
| 20 | 0,71 | 0,00 | 0,14 | 0,14 | 0,86 | 0,14 | 0,00 | 0,00 |
| 21 | 0,57 | 0,29 | 0,00 | 0,14 | 0,71 | 0,14 | 0,14 | 0,00 |
| 22 | 0,29 | 0,43 | 0,14 | 0,14 | 0,71 | 0,14 | 0,00 | 0,14 |
| Total | 0,73 | 0,16 | 0,07 | 0,05 | 0,77 | 0,11 | 0,08 | 0,04 |

Table 5: Average for each option per item and condition

| Subjects | a | | | | b | | | |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | option 1 | option 2 | option 3 | option 4 | option 1 | option 2 | option 3 | option 4 |
| 1,00 | 0,73 | 0,09 | 0,09 | 0,09 | 0,91 | 0,09 | 0,00 | 0,00 |
| 2,00 | 0,55 | 0,45 | 0,00 | 0,00 | 0,45 | 0,36 | 0,00 | 0,18 |
| 3,00 | 1,00 | 0,00 | 0,00 | 0,00 | 1,00 | 0,00 | 0,00 | 0,00 |
| 4,00 | 0,45 | 0,45 | 0,00 | 0,09 | 0,91 | 0,00 | 0,09 | 0,00 |
| 5,00 | 0,91 | 0,00 | 0,00 | 0,09 | 1,00 | 0,00 | 0,00 | 0,00 |
| 6,00 | 0,82 | 0,18 | 0,00 | 0,00 | 0,64 | 0,36 | 0,00 | 0,00 |
| 7,00 | 0,91 | 0,09 | 0,00 | 0,00 | 0,91 | 0,09 | 0,00 | 0,00 |
| 8,00 | 0,73 | 0,18 | 0,00 | 0,09 | 0,82 | 0,18 | 0,00 | 0,00 |
| 9,00 | 0,91 | 0,00 | 0,09 | 0,00 | 1,00 | 0,00 | 0,00 | 0,00 |
| 10,00 | 0,18 | 0,09 | 0,73 | 0,00 | 0,18 | 0,00 | 0,82 | 0,00 |
| 11,00 | 0,82 | 0,18 | 0,00 | 0,00 | 0,82 | 0,18 | 0,00 | 0,00 |
| 12,00 | 1,00 | 0,00 | 0,00 | 0,00 | 0,91 | 0,00 | 0,00 | 0,09 |
| 13,00 | 0,55 | 0,36 | 0,00 | 0,09 | 0,55 | 0,36 | 0,00 | 0,09 |
| 14,00 | 0,64 | 0,00 | 0,18 | 0,18 | 0,64 | 0,00 | 0,09 | 0,27 |
| Total | 0,73 | 0,15 | 0,08 | 0,05 | 0,77 | 0,12 | 0,07 | 0,05 |

Table 6: Average for each option per condition and subject

Given that we only had 14 subjects, and since each subject only answered to one condition per item, and each item manipulated a feature on the DP and each condition manipulated the embedded verb, we we're left with 28 answers per item, 7 per condition, which made any kind of statistical analysis to be inadequate, so we did not run any statistical analysis due to such a small sample to the number of variables. Looking at the totals per item, option 1, *estar a*, which we interpreted as being the closest to the PR reading, was the most chosen, 73% of the times for condition A and 77% for condition B. This allowed anticipating that, in the context of the perceptive verb, the interpretation of the constituent was as a PR. The fact that the percentage was for most of the items at least at a comfortable 70% would mean that the modification of features on the DP did not have much effect on the hypothetical availability of PR. The item that got the least PR reading was item 22, which consisted of a dative marked complementizer, so this result is exactly what was to be expected, supporting the interpretation that PR are an available structure with perceptive verbs, but when looking at condition B of the same item option 1 was chosen 71%, meaning that subjects got PR reading despite of such clear violation of PR restrictions. When we look at results for each subject, we see a clear pattern, there was no significant difference between conditions and every subject was systematic in their answers.

IX. DISCUSSION AND CONCLUSION

In a revision of all the results, experiment 1 showed that a PR correlate like PIC consistently gets high attachment in PR contexts and low attachment in no-PR contexts or relative clause contexts, independent of position. This is especially seen in conditions B and D, the nominal conditions, where there is no manipulation of the syntactic string, but just of the semantic nature of the preceding noun, which may or may not depict an event. These results fully support Grillo and Costa (2011) when saying that under *minimal attachment* the parsing preference for PIC in PR contexts should be as a PR and not as a reduced RC, and we anticipate that the same should be observed with the –ing form in English. But, given the principle of Minimal Attachment since the high attachment is, in fact, forced by grammar, why were the results not 100% high attachment for PR conditions? We address that question in this chapter when comparing results between experiments.

Experiment 2 provides further evidence to the effect of PR contexts with genuine PRs, especially after a perceptive verb, since condition B only got 46% high attachment, we interpret the difference between condition B and conditions C and D to be caused by the PR reading, and the difference between A and B to reside in a much more reduced availability of the structure in nominal contexts when introduced by *que*. We have conducted preliminary testing with similar test items for Spanish and the results are very similar to these in EP.

Experiment 3 can be interpreted in several ways: first, there are no PRs in EP, subjects interpreted all sentences as a RC or at least preferred that reading to PR reading, making PRs in EP highly restricted. Second, PRs do exist, but since items violating PR restrictions were still interpreted as a PR, PRs in EP are utterly and completely different from PRs in other languages, while still maintaining in common the eventive reading. Third, PR availability does not suffer from modifying its subject. Above all, we feel further evidence is needed to really understand this matter, especially when it comes to aspectual and tense manipulation. We cannot say these results were solely due to PR availability because we had no items without perceptive verbs. Another issue with the test was the opposition of something non-eventive, *costuma*, and an eventive option, *estar a*. Given that perceptive verbs select for events, and Pseudo Relatives depict events, maybe that was a decisive factor in choosing between options.

Comparing experiments 1 and 2, there is one observation to be made. Why didn't we find a 100% high attachment in conditions A and B in experiment 1 and, at least a higher

percentage for condition A in the second experiment? Minimal attachment definitely favors PR with perceptive verbs, but when faced with a possibility of parsing the constituent as an adjunct PR or as a relative clause, that decision is probably under the effect of any other principle, and a comprehensive explanation has to take several factors under consideration. When running these experiments we did not have the time to run a plausibility test with the items of the tests, maybe this could be taken into consideration for future work, especially when it comes to the adjunct PR configuration.

Looking at the results from experiment 1, condition D (38% high attachment) and comparing them with conditions C (33%) and D (34%), or even condition B (46%), from experiment 2, and comparing with condition C in experiment 1 (20%), we find evidence supporting Gibson et al. multi factor explanation for relative clauses. Condition D, experiment 1 can only be a reduced relative clause and we obtained an 18% difference to condition C (both no-PR conditions), we attribute that 18% difference to the effect of predicate proximity, since both condition were in perfect symmetry apart from position, but in the subject position the first DP is much more relevant to the main assertion than the second DP. We would need evidence from English and compare it with these results to offer evidence to Gibson's et al (1996) claim that "predicate proximity must have the potential to vary crosslinguistically, so that it is associated with a different cost in each of the two languages" (pp.45). Right now, Grillo and Costa's argument for a uniform parser when it comes to RCs was proved, and with results from the -ing form in English matching these ones, we would have evidence to show that predicate proximity wouldn't vary crosslinguistically either, but that it comes into play with genuine RCs.

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APENDIX A – Test Items for experiment 1

- 1 a - alguém viu o filho do médico a jantar {o_filho_janta o_médico_janta}
- 1 b - a fotografia do filho do médico a jantar é velha {o_filho_janta o_médico_janta}
- 1 c - alguém divide a casa com o filho do médico a jantar {o_filho_janta o_médico_janta}
- 1 d - o carro do filho do médico a jantar é velho {o_filho_janta o_médico_janta}
- 2 a - ninguém ouviu a avó da menina a gritar {a_avó_grita a_menina_grita}
- 2 b - visão da avó da menina a gritar é chata {a_avó_grita a_menina_grita}
- 2 c - ninguém é amigo da avó da menina a gritar {a_avó_grita a_menina_grita}
- 2 d - o pente da avó da menina a gritar é preto {a_avó_grita a_menina_grita}
- 3 a - o joão encontrou o professor do rapaz a cantar {o_professor_canta o_rapaz_canta}
- 3 b - o filme do professor do rapaz a cantar é de má qualidade {o_professor_canta o_rapaz_canta}
- 3 c - o joão é colega do professor do rapaz a cantar {o_professor_canta o_rapaz_canta}
- 3 d - o casaco do professor do rapaz a cantar é de má qualidade {o_professor_canta o_rapaz_canta}
- 4 a - o escritor observou a tia da menina a saltar {a_tia_salta a_menina_salta}
- 4 b - o desenho da tia da menina a saltar é bonito {a_tia_salta a_menina_salta}
- 4 c - o escritor é casado com a tia da menina a saltar {a_tia_salta a_menina_salta}
- 4 d - a casa da tia da menina a saltar é bonita {a_tia_salta a_menina_salta}
- 5 a - a maria escutou a filha do polícia a discutir {a_filha_discute o_polícia_discute}
- 5 b - a gravação da filha do polícia a discutir é engraçada {a_filha_discute o_polícia_discute}
- 5 c - a maria é vizinha da filha do polícia a discutir {a_filha_discute o_polícia_discute}
- 5 d - a profissão da filha do polícia a discutir é engraçada {a_filha_discute o_polícia_discute}
- 6 a - alguém cheirou o amigo do político a cozinhar {o_amigo_cozinha o_político_cozinha}
- 6 b - o cheiro do amigo do político a cozinhar é divinal {o_amigo_cozinha o_político_cozinha}
- 6 c - alguém é inimigo do amigo do político a cozinhar {o_amigo_cozinha o_político_cozinha}
- 6 d - o barco do amigo do político a cozinhar é divinal {o_amigo_cozinha o_político_cozinha}

- 7 a - a joana encontrou a criada da atriz a escrever {a_criada_escreve a_atriz_escreve}
- 7 b - o barulho da criada da atriz a escrever é horrível {a_criada_escreve a_atriz_escreve}
- 7 c - a joana é nora da criada da atriz a escrever {a_criada_escreve a_atriz_escreve}
- 7 d - o cachecol da criada da atriz a escrever é horrível {a_criada_escreve a_atriz_escreve}
- 8 a - a advogada apanhou o motorista da vizinha a nadar {o_motorista_nada a_vizinha_nada}
- 8 b - o vídeo do motorista da vizinha a nadar é aborrecido {o_motorista_nada a_vizinha_nada}
- 8 c - a advogada é sogra do motorista da vizinha a nadar {o_motorista_nada a_vizinha_nada}
- 8 d - o emprego do motorista da vizinha a nadar é aborrecido{o_motorista_nada a_vizinha_nada}
- 9 a - o sérgio cumprimentou o aluno da professora a ler {o_aluno_lê a_professora_lê}
- 9 b - a imagem do aluno da professora a ler é agradável{o_aluno_lê a_professora_lê}
- 9 c - o sérgio é irmão do aluno da professora a ler {o_aluno_lê a_professora_lê}
- 9 d - o quintal do aluno da professora a ler é agradável {o_aluno_lê a_professora_lê}
- 10 a - ninguém suporta a neta do segurança a comer{a_neta_comer o_segurança_comer}
- 10 b - a cena da neta do segurança a comer é divertida {a_neta_comer o_segurança_comer}
- 10 c - ninguém é empregado da neta do segurança a comer {a_neta_comer o_segurança_comer}
- 10 d - a vida da neta do segurança a comer é divertida{a_neta_comer o_segurança_comer}
- 11 a - a sónia admirou o ajudante do talhante a correr {o_talhante_corre o_ajudante_corre}
- 11 b - o som do ajudante do talhante a correr é irritante {o_talhante_corre o_ajudante_corre}
- 11 c - a sónia é prima do ajudante do talhante a correr{o_talhante_corre o_ajudante_corre}
- 11 d - bigode do ajudante do talhante a correr é irritante {o_talhante_corre o_ajudante_corre}
- 12 a - a catarina olhou para o amigo do juiz a conduzir {o_juiz_conduz o_amigo_conduz}
- 12 b - o aspecto do amigo do juiz a conduzir é estranho {o_juiz_conduz o_amigo_conduz}
- 12 c - a catarina é filha do amigo do juiz a conduzir {o_juiz_conduz o_amigo_conduz}
- 12 d - o hobby do amigo do juiz a conduzir é estranho {o_juiz_conduz o_amigo_conduz}
- 13 a - o pedro imaginou o amigo da florista a trabalhar {a_florista_trabalha o_amigo_trabalha}
- 13 b - o ruído do amigo da florista a trabalhar é insuportável {a_florista_trabalha o_amigo_trabalha}

- 13 c - o pedro é vizinho do amigo da florista a trabalhar {a_florista_trabalha o_amigo_trabalha}
- 13 d - a mota do amigo da florista a trabalhar é insuportável {a_florista_trabalha o_amigo_trabalha}
- 14 a - o césar sonhou com a amiga do irmão a beber {o_irmão_bebe a_amiga_bebe}
- 14 b - a figura da amiga do irmão a beber é triste {o_irmão_bebe a_amiga_bebe}
- 14 c - o césar é casado com a amiga do irmão a beber {o_irmão_bebe a_amiga_bebe}
- 14 d - o escritório da amiga do irmão a beber é triste {o_irmão_bebe a_amiga_bebe}
- 15 a - o bruno desenhou o neto da senhora a fumar {a_senhora_fuma o_neto_fuma}
- 15 b - o estilo do neto da senhora a fumar é feio {a_senhora_fuma o_neto_fuma}
- 15 c - o bruno é professor do neto da senhora a fumar {a_senhora_fuma o_neto_fuma}
- 15 d - o relógio do neto da senhora a fumar é feio {a_senhora_fuma o_neto_fuma}
- 16 a - a cátia filmou o agente do jogador a rressonar {o_jogador_rressona o_agente_rressona}
- 16 b - o ruído do agente do jogador a rressonar é péssimo {o_jogador_rressona o_agente_rressona}
- 16 c - a cátia é afilhada do agente do jogador a ler {o_jogador_rressona o_agente_rressona}
- 16 d - o cabelo do agente do jogador a rressonar é péssimo {o_jogador_rressona o_agente_rressona}
- 17 a - o bombeiro gravou a prima do advogado a assobiar {o_advogado_assobia a_prima_assobia}
- 17 b - a melodia da prima do advogado a assobiar é encantadora {o_advogado_assobia a_prima_assobia}
- 17 c - o bombeiro é empregado da prima do advogado a assobiar {o_advogado_assobia a_prima_assobia}
- 17 d - a presença da prima do advogado a assobiar é encantadora {o_advogado_assobia a_prima_assobia}
- 18 a - ele espreitou a amiga do sapateiro a dançar {o_sapateiro_dança a_amiga_dança}

- 18 b - a elegância da amiga do sapateiro a dançar é soberba {o_sapateiro_dança a_amiga_dança}
- 18 c - ele é namorado da amiga do sapateiro a dançar {o_sapateiro_dança a_amiga_dança}
- 18 d - a piscina da amiga do sapateiro a dançar é soberba {o_sapateiro_dança a_amiga_dança}
- 19 a - ela fotografou o enteado da enfermeira a estudar {a_enfermeira_estuda o_enteado_estuda}
- 19 b - o cenário do enteado da enfermeira a estudar é surpreendente {a_enfermeira_estuda o_enteado_estuda}
- 19 c - ela é irmã do enteado da enfermeira a estudar {a_enfermeira_estuda o_enteado_estuda}
- 19 d - a televisão do enteado da enfermeira a estudar é surpreendente {a_enfermeira_estuda o_enteado_estuda}
- 20 a - o cantor deixou o irmão do empresário a sangrar {o_empresário_sangra o_irmão_sangra}
- 20 b - a recordação do irmão do empresário a sangrar é desconfortável {o_empresário_sangra o_irmão_sangra}
- 20 c - o cantor é o ídolo do irmão do empresário a sangrar {o_empresário_sangra o_irmão_sangra}
- 20 d - o sofá do irmão do empresário a sangrar é desconfortável {o_empresário_sangra o_irmão_sangra}
- 21 a - o polícia escutou a amiga da irmã a costurar {a_amiga_costura a_irmã_costura}
- 21 b - o barulho da a amiga da irmã a costurar é irritante {a_amiga_costura a_irmã_costura}
- 21 c - o polícia é vizinho da amiga da irmã a costurar {a_amiga_costura a_irmã_costura}
- 21 d - o trabalho da amiga da irmã a costurar é irritante {a_amiga_costura a_irmã_costura}
- 22 a - o técnico admirou a irmã da colega a dançar {a_irmã_dança a_colega_dança}
- 22 b - a visão da irmã da colega a dançar é espectacular {a_irmã_dança a_colega_dança}
- 22 c - o técnico é pai da irmã da colega a dançar {a_irmã_dança a_colega_dança}
- 22 d - o chapéu da irmã da colega a dançar é espectacular {a_irmã_dança a_colega_dança}
- 23 a - o manuel viu a professora da amiga a conduzir {a_amiga_conduz a_professora_conduz}

23 b -a imagem da professora da amiga a conduzir é perturbadora {a_amiga_conduz a_professora_conduz}

23 c – o manuel é irmão da professora da amiga a conduzir{a_amiga_conduz a_professora_conduz}

23 d - o livro da professora da amiga a conduzir é perturbador {a_amiga_conduz a_professora_conduz}

24 a - o vizinho ouviu o filho do porteiro a cantar{o_porteiro_canta o_filho_canta}

24 b - o vídeo do filho do porteiro a cantar é péssimo {o_porteiro_canta o_filho_canta}

24 c - o vizinho é colega do filho do porteiro a cantar {o_porteiro_canta o_filho_canta}

24 d - o carro do filho do porteiro a cantar é péssimo{o_porteiro_canta o_filho_canta}

APENDIX b – Test Items for experiment 2

- 1 a - alguém viu o filho do médico que estava a jantar {o_filho_janta o_médico_janta}
- 1 b - a fotografia do filho do médico que estava a jantar é velha {o_filho_janta o_médico_janta}
- 1 c - alguém divide a casa com o filho do médico que estava a jantar {o_filho_janta o_médico_janta}
- 1 d - o carro do filho do médico que estava a jantar é velho {o_filho_janta o_médico_janta}
- 2 a - ninguém ouviu a avó da menina que estava a gritar {a_avó_grita a_menina_grita}
- 2 b - visão da avó da menina que estava a gritar é chata {a_avó_grita a_menina_grita}
- 2 c - ninguém é amigo da avó da menina que estava a gritar {a_avó_grita a_menina_grita}
- 2 d - o pente da avó da menina que estava a gritar é preto {a_avó_grita a_menina_grita}
- 3 a - o João encontrou o professor do rapaz que estava a cantar {o_professor_canta o_rapaz_canta}
- 3 b - o filme do professor do rapaz que estava a cantar é de má qualidade {o_professor_canta o_rapaz_canta}
- 3 c - o João é colega do professor do rapaz que estava a cantar {o_professor_canta o_rapaz_canta}
- 3 d - o casaco do professor do rapaz que estava a cantar é de má qualidade {o_professor_canta o_rapaz_canta}
- 4 a - o escritor observou a tia da menina que estava a saltar {a_tia_salta a_menina_salta}
- 4 b - o desenho da tia da menina que estava a saltar é bonito {a_tia_salta a_menina_salta}
- 4 c - o escritor é casado com a tia da menina que estava a saltar {a_tia_salta a_menina_salta}
- 4 d - a casa da tia da menina que estava a saltar é bonita {a_tia_salta a_menina_salta}
- 5 a - a Maria escutou a filha do polícia que estava a discutir {a_filha_discute o_polícia_discute}
- 5 b - a gravação da filha do polícia que estava a discutir é engraçada {a_filha_discute o_polícia_discute}

5 c - a maria é vizinha da filha do polícia que estava a discutir {a_filha_discute
o_polícia_discute}

5 d - a profissão da filha do polícia que estava a discutir é engraçada {a_filha_discute
o_polícia_discute}

6 a - alguém cheirou o amigo do político que estava a cozinhar {o_amigo_cozinha
o_político_cozinha}

6 b - o cheiro do amigo do político que estava a cozinhar é divinal {o_amigo_cozinha
o_político_cozinha}

6 c - alguém é inimigo do amigo do político que estava a cozinhar {o_amigo_cozinha
o_político_cozinha}

6 d - o barco do amigo do político que estava a cozinhar é divinal {o_amigo_cozinha
o_político_cozinha}

7 a - a joana encontrou a criada da atriz que estava a escrever {a_criada_escreve
a_atriz_escreve}

7 b - o barulho da criada da atriz que estava a escrever é horrível {a_criada_escreve
a_atriz_escreve}

7 c - a joana é nora da criada da atriz que estava a escrever {a_criada_escreve a_atriz_escreve}

7 d - o cachecol da criada da atriz que estava a escrever é horrível {a_criada_escreve
a_atriz_escreve}

8 a - a advogada apanhou o motorista da vizinha que estava a nadar {o_motorista_nada
a_vizinha_nada}

8 b - o vídeo do motorista da vizinha que estava a nadar é aborrecido {o_motorista_nada
a_vizinha_nada}

8 c - a advogada é sogra do motorista da vizinha que estava a nadar {o_motorista_nada
a_vizinha_nada}

8 d - o emprego do motorista da vizinha que estava a nadar é aborrecido{o_motorista_nada
a_vizinha_nada}

9 a - o sérgio cumprimentou o aluno da professora que estava a ler {o_aluno_lê
a_professora_lê}

9 b - a imagem do aluno da professora que estava a ler é agradável{o_aluno_lê a_professora_lê}

9 c - o sêrgio é irmão do aluno da professora que estava a ler {o_aluno_lê a_professora_lê}

9 d - o quintal do aluno da professora que estava a ler é agradável {o_aluno_lê a_professora_lê}

10 a - ninguém suporta a neta do segurança que estava a comer{a_neta_come o_segurança_come}

10 b - a cena da neta do segurança que estava a comer é divertida {a_neta_come o_segurança_come}

10 c - ninguém é empregado da neta do segurança que estava a comer {a_neta_come o_segurança_come}

10 d - a vida da neta do segurança que estava a comer é divertida{a_neta_come o_segurança_come}

11 a - a sônia admirou o ajudante do talhante que estava a correr {o_talhante_corre o_ajudante_corre}

11 b - o som do ajudante do talhante que estava a correr é irritante {o_talhante_corre o_ajudante_corre}

11 c - a sônia é prima do ajudante do talhante que estava a correr{o_talhante_corre o_ajudante_corre}

11 d - bigode do ajudante do talhante que estava a correr é irritante {o_talhante_corre o_ajudante_corre}

12 a - a catarina olhou para o amigo do juiz que estava a conduzir {o_juiz_conduz o_amigo_conduz}

12 b - o aspecto do amigo do juiz que estava a conduzir é estranho {o_juiz_conduz o_amigo_conduz}

12 c - a catarina é filha do amigo do juiz que estava a conduzir {o_juiz_conduz o_amigo_conduz}

12 d - o hobby do amigo do juiz que estava a conduzir é estranho {o_juiz_conduz o_amigo_conduz}

13 a - o pedro imaginou o amigo da florista que estava a trabalhar {a_florista_trabalha o_amigo_trabalha}

13 b - o ruído do amigo da florista que estava a trabalhar é insuportável {a_florista_trabalha o_amigo_trabalha}

13 c - o pedro é vizinho do amigo da florista que estava a trabalhar {a_florista_trabalha o_amigo_trabalha}

13 d - a mota do amigo da florista que estava a trabalhar é insuportável {a_florista_trabalha o_amigo_trabalha}

14 a - o césar sonhou com a amiga do irmão que estava a beber {o_irmão_bebe a_amiga_bebe}

14 b - a figura da amiga do irmão que estava a beber é triste {o_irmão_bebe a_amiga_bebe}

14 c - o césar é casado com a amiga do irmão que estava a beber {o_irmão_bebe a_amiga_bebe}

14 d - o escritório da amiga do irmão que estava a beber é triste {o_irmão_bebe a_amiga_bebe}

15 a - o bruno desenhou o neto da senhora que estava a fumar {a_senhora_fuma o_neto_fuma}

15 b - o estilo do neto da senhora que estava a fumar é feio {a_senhora_fuma o_neto_fuma}

15 c - o bruno é professor do neto da senhora que estava a fumar {a_senhora_fuma o_neto_fuma}

15 d - o relógio do neto da senhora que estava a fumar é feio {a_senhora_fuma o_neto_fuma}

16 a - a cátia filmou o agente do jogador que estava a rressonar {o_jogador_rressona o_agente_rressona}

16 b - o ruído do agente do jogador que estava a rressonar é péssimo {o_jogador_rressona o_agente_rressona}

16 c - a cátia é afilhada do agente do jogador que estava a ler {o_jogador_rressona o_agente_rressona}

16 d - o cabelo do agente do jogador que estava a rressonar é péssimo {o_jogador_rressona o_agente_rressona}

17 a - o bombeiro gravou a prima do advogado que estava a assobiar {o_advogado_assobia a_prima_assobia}

- 17 b - a melodia da prima do advogado que estava a assobiar é encantadora
{o_advogado_assobia a_prima_assobia}
- 17 c - o bombeiro é empregado da prima do advogado que estava a assobiar
{o_advogado_assobia a_prima_assobia}
- 17 d - a presença da prima do advogado que estava a assobiar é encantadora
{o_advogado_assobia a_prima_assobia}
- 18 a - ele espreitou a amiga do sapateiro que estava a dançar {o_sapateiro_dança
a_amiga_dança}
- 18 b - a elegância da amiga do sapateiro que estava a dançar é soberba {o_sapateiro_dança
a_amiga_dança}
- 18 c - ele é namorado da amiga do sapateiro que estava a dançar {o_sapateiro_dança
a_amiga_dança}
- 18 d - a piscina da amiga do sapateiro que estava a dançar é soberba {o_sapateiro_dança
a_amiga_dança}
- 19 a - ela fotografou o enteado da enfermeira que estava a estudar {a_enfermeira_estuda
o_enteadado_estuda}
- 19 b - o cenário do enteado da enfermeira que estava a estudar é surpreendente
{a_enfermeira_estuda o_enteadado_estuda}
- 19 c - ela é irmã do enteado da enfermeira que estava a estudar {a_enfermeira_estuda
o_enteadado_estuda}
- 19 d - a televisão do enteado da enfermeira que estava a estudar é surpreendente
{a_enfermeira_estuda o_enteadado_estuda}
- 20 a - o cantor deixou o irmão do empresário que estava a sangrar {o_empresário_sangra
o_irmão_sangra}
- 20 b - a recordação do irmão do empresário que estava a sangrar é desconfortável
{o_empresário_sangra o_irmão_sangra}
- 20 c - o cantor é o ídolo do irmão do empresário que estava a sangrar {o_empresário_sangra
o_irmão_sangra}
- 20 d - o sofá do irmão do empresário que estava a sangrar é desconfortável
{o_empresário_sangra o_irmão_sangra}

- 21 a - o polícia escutou a amiga da irmã que estava a costurar {a_amiga_costura a_irmã_costura}
- 21 b - o barulho da a amiga da irmã que estava a costurar é irritante{a_amiga_costura a_irmã_costura}
- 21 c - o polícia é vizinho da amiga da irmã que estava a costurar{a_amiga_costura a_irmã_costura}
- 21 d - o trabalho da amiga da irmã que estava a costurar é irritante {a_amiga_costura a_irmã_costura}
- 22 a - o técnico admirou a irmã da colega que estava a dançar{a_irmã_dança a_colega_dança}
- 22 b - a visão da irmã da colega que estava a dançar é espectacular{a_irmã_dança a_colega_dança}
- 22 c - o técnico é pai da irmã da colega que estava a dançar {a_irmã_dança a_colega_dança}
- 22 d - o chapéu da irmã da colega que estava a dançar é espectacular{a_irmã_dança a_colega_dança}
- 23 a - o manuel viu a professora da amiga que estava a conduzir {a_amiga_conduz a_professora_conduz}
- 23 b -a imagem da professora da amiga que estava a conduzir é perturbadora {a_amiga_conduz a_professora_conduz}
- 23 c – o manuel é irmão da professora da amiga que estava a conduzir{a_amiga_conduz a_professora_conduz}
- 23 d - o livro da professora da amiga que estava a conduzir é perturbador {a_amiga_conduz a_professora_conduz}
- 24 a - o vizinho ouviu o filho do porteiro que estava a cantar{o_porteiro_canta o_filho_canta}
- 24 b - o vídeo do filho do porteiro que estava a cantar é péssimo {o_porteiro_canta o_filho_canta}
- 24 c - o vizinho é colega do filho do porteiro que estava a cantar {o_porteiro_canta o_filho_canta}
- 24 d - o carro do filho do porteiro que estava a cantar é péssimo{o_porteiro_canta o_filho_canta}

APENDIX C – Test Items for experiment 3

- 1 a - vejo o João que corre {o_João_está_a_correr o_João_costuma_correr ambas nenhuma}
- 1 b - ouço a Maria que salta {a_Maria_está_a_saltar a_Maria_costuma_saltar ambas nenhuma}
- 2 a - vejo o avião que voa o_avião_está_a_voar o_avião_costuma_voar ambas nenhuma}
- 2 b - ouço o carro que anda {o_avião_está_a_voar o_avião_costuma_voar ambas nenhuma}
- 3 a - vejo as crianças que brincam {as_crianças_estão_a_brincar
as_crianças_costumam_brincar ambas nenhuma}
- 3 b - ouço os meninos que cantam {os_meninos_estão_a_cantar
os_meninos_costumam_cantar ambas nenhuma}
- 4 a - vejo um cão que coxeia {o_cão_está_a_coxear o_cão_costuma_coxear ambas nenhuma}
- 4 b - ouço um papagaio que fala {o_papagaio_está_a_falar o_papagaio_costuma_falar ambas
nenhuma}
- 5 a - vejo o teu filho que chora {o_filho_está_a_chorar o_filho_costuma_chorar ambas
nenhuma}
- 5 b - ouço o teu vizinho que grita {o_vizinho_está_a_gritar o_vizinho_costuma_gritar ambas
nenhuma}
- 6 a - vejo os teus sobrinhos que nadam {os_sobrinhos_estão_a_nadar
os_sobrinhos_costumam_nadar ambas nenhuma}
- 6 b - ouço os teus avós que discutem {os_avós_estão_a_discutir os_avós_costumam_discutir
ambas nenhuma}
- 7 a - vejo o teu helicóptero que descola {o_helicóptero_está_a_descolar
o_helicóptero_costuma_descolar ambas nenhuma}
- 7 b - ouço a tua mota que trabalha {a_mota_está_a_trabalhar a_mota_costuma_trabalhar ambas
nenhuma}
- 8 a - vejo os teus candeeiros que acendem {os_candeeiros_estão_a_acendem
os_candeeiros_costuma_acender ambas nenhuma}

- 8 b - ouço os teus telemóveis que tocam {os_telemóveis_estão_a_tocar os_telemóveis_costuma_tocar ambas nenhuma}
- 9 a - vejo alguém que rouba {alguém_está_a_roubar alguém_costuma_roubar ambas nenhuma}
- 9 b - ouço alguém que tosse {alguém_está_a_tossir alguém_costuma_tossir ambas nenhuma}
- 10 a - vejo algo que {algo_está_a_flutuar algo_costuma_flutuar ambas nenhuma}
- 10 b - ouço algo que irrita {a_neta_come o_segurança_come}
- 11 a - vejo comida que se estraga {a_comida_está_a_estragar-se a_comida_costuma_estragar-se ambas nenhuma}
- 11 b - ouço barulho que vem do motor {o_barulho_está_a_vir_do motor o_barulho_costuma_vir_do_motor ambas nenhuma}
- 12 a - vejo aquela advogada que trabalha {a_advogada_está_a_trabalhar a_advogada_costuma_trabalhar ambas nenhuma}
- 12 b - ouço este homem que gagueja {o_homem_está_a_gaguejar o_homem_costuma_gaguejar ambas nenhuma}
- 13 a - não vejo o josé que corre {o_josé_não_está_a_correr o_josé_costuma_correr ambas nenhuma}
- 13 b - não ouço a sara que janta {a_sara_não_está_a_jantar a_sara_costuma_jantar ambas nenhuma}
- 14 a - vejo o computador velho que trabalha {o_computador_está_a_trabalhar o_computador_costuma_trabalhar ambas nenhuma}
- 14 b - ouço o carro azul que anda {o_carro_está_a_andar o_carro_costuma_andar ambas nenhuma}
- 15 a - vejo várias crianças que brincam {as_crianças_estão_a_brincar as_crianças_costumam_brincar ambas nenhuma}
- 15 b - ouço muitos homens que assobiam {os_homens_estão_a_assobiar os_homens_costumam_assobiar ambas nenhuma}
- 16 a - vejo o filho que a mãe penteia {a_mãe_está_a_pentear_o_menino a_mãe_costuma_pentear_o_menino ambas nenhuma}

- 16 b - ouço o cão que o vizinho passeia {o_vizinho_está_a_passear_o_cão
o_vizinho_costuma_passear_o_cão ambas nenhuma}
- 17 a - vejo o avô que anda a cavalo {o_avô_está_a_andar_a_cavalo
o_avô_costuma_andar_a_cavalo ambas nenhuma}
- 17 b - ouço o vizinho que fala francês {o_vizinho_está_a_falar_francês
o_vizinho_costuma_falar_francês ambas nenhuma}
- 18 a - vejo dois polícias que correm {os_ polícias_estam_a_correr os_
polícias_costumam_correr ambas nenhuma}
- 18 b - ouço duas testemunhas que conversam {as_testemunhas_conversam
as_testemunhas_costumam_conversar}
- 19 a - vejo o boneco que cai {o_boneco_está_a_cair o_boneco_costuma_cair ambas nenhuma}
- 19 b - ouço o cliente que entra {o_cliente_está_a_entrar o_cliente_costuma_entrar ambas}
- 20 a - vejo um grande amigo que sorri {o_amigo_está_a_sorrir o_amigo_costuma_sorrir ambas
nenhuma}
- 20 b - ouço uma velha colega que telefona {a_colega_está_a_telefonar
a_colega_costuma_telefonar ambas nenhuma}
- 21 a - vejo três dos quatro amigos que correm {os_amigos_estão_a_correr
os_amigos_costumam_corre ambas nenhuma}
- 21 b - ouço dois dos três colegas que conversam {os_colegas_estão_a_conversar
os_colega_costumam_conversar ambas nenhuma}
- 22 a - vejo o gato ao qual fazem festas {estão_a_fazer_festas_ao_gato
costumam_fazer_festas_ao_gato ambas nenhuma}
- 22 b - ouço o menino a quem ralham {estão_a_ralhar_com_o_menino
costumam_ralhar_com_o_menino ambas nenhuma}